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USSR Report

AGRICULTURE

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22 March 1985

USSR REPORT AGRICULTURE

CONTENTS

MAJOR CROP PROGRESS AND WEATHER REPORTING

| | |
|--|----|
| Importance of Seeds Discussed (SEL'SKAYA GAZETA, 1 Dec 84)..... | 1 |
| Storage of Spring Crop Seeds Reported (SEL'SKAYA GAZETA, 4 Dec 84)..... | 3 |
| Arrears in Preparing Seeds Reported (SEL'SKAYA GAZETA, 25 Dec 84)..... | 6 |
| Stavropol Sugar Beet Harvest (P. Gus'kov; TRUD, 18 Oct 84)..... | 9 |
| Importance of Sugar Beet Shipping Stressed (S. Prokopchuk; TRUD, 23 Oct 84)..... | 11 |
| Improvement in Sugar Beet Transportation Noted (L. Yakimenko, V. Krylov; RABOCHAYA GAZETA, 2 Nov 84)... | 15 |
| Grain Harvest Transported Successfully (A. Kokorin; URAL'SKIYE NIVY, No 6, Jun 84)..... | 17 |
| Moscow Trucks Used on Orenburg Fields (M. Zabrodskiy; MOSKOVSKAYA PRAVDA, 12 Aug 84)..... | 21 |

LIVESTOCK FEED PRODUCTION

| | |
|--|----|
| Increase Mixed Feed Production, Improve Quality (A. Sharik, L. Rybakova; SEL'SKAYA ZHIZN', 5 Jan 85)... | 23 |
|--|----|

LIVESTOCK

| | |
|--|----|
| Role of Progressive Technology in Meeting Hogbreeding Goals (F. Pochernyayev; SVINOVODSTVO, No 12, Dec 84)..... | 26 |
| Improving Kazakh Dairy Herds for Higher Milk Yield (P. Nasipov; KAZAKHSTANSKAYA PRAVDA, 21 Dec 84)..... | 32 |
| Increase Effectiveness of Hog-Raising Complexes (V. Tyurin; SVINOVODSTVO, No 1, Jan 85)..... | 37 |
| Uzbek Livestock Sector Problems Examined (A. Sabirov; SEL'SKOYE KHOZYAYSTVO UZBEKISTANA, No 11, Nov 84)..... | 44 |
| Increased Industrial Processing of Customer-Supplied Cattle (S. S. Shnitser; MYASNAYA INDUSTRIYA SSSR, No 11, Nov 84)..... | 49 |
| Measures To Improve Kazakh Cattle Breeding Operations (I. Kotenko; KAZAKHSTANSKAYA PRAVDA, 4 Jan 85)..... | 54 |
| Measures To Prevent Infectious Disease in Poultry Discussed (I. Skutar'; SEL'SKOYE KHOZYAYSTVO MOLDAVII, No 11, Nov 84)..... | 57 |
| Briefs Tadzhik Leader, Livestock Conference | 60 |

REGIONAL DEVELOPMENT

| | |
|--|----|
| Intensification of Agriculture in Armenia Discussed (G. Gushchyan; KOMMUNIST, 12 Jan 85)..... | 61 |
|--|----|

AGRO-ECONOMICS AND ORGANIZATION

| | |
|---|----|
| Effective Regional Resource Use in APK Development (V. P. Mozhin; EKONOMIKA I MATEMATICHESKIYE METODY, No 6, Nov-Dec 84)..... | 65 |
| Credit Extension for Kolkhoz Production Development (V. V. Kochkarev; DENG I KREDIT, No 10, Oct 84)..... | 76 |

FORESTRY AND TIMBER

| | |
|--|----|
| CPSU CC Resolution on Wood Waste Processing (PRAVDA, 1 Mar 85)..... | 86 |
| Timber Official Discusses Transport Service (A. G. Prokhorenko; LESNAYA PROMYSHLENNOST', 5 Jan 85). | 89 |

LAND RECLAMATION AND WATER MANAGEMENT

| | |
|--|-----|
| Minister Discusses Increased Fertility (V. P. Loginov; EKONOMICHESKAYA GAZETA, No 1, Jan 85)..... | 91 |
| Officials Set Forth RSFSR Reclamation Program (N. Radugin; SEL'SKOYE KHOZYAYSTVO ROSII, No 1, Jan 85)..... | 95 |
| RSFSR Council of Ministers Discusses Reclamation Programs (SOVETSKAYA ROSSIYA, 20 Nov 84)..... | 102 |
| RSFSR Land Reclamation Work Described (F. Seleznev; IZVESTIYA, 7 Apr 84)..... | 104 |
| Elimination of Shortcomings in Reclamation Work Urged (EKONOMIKA SEL'SKOGO KHOZYAYSTVA, No 12, Dec 84)..... | 109 |
| Land Reclamation, Water Management Program Reviewed (AGITATOR, No 22, Nov 84)..... | 120 |

MAJOR CROP PROGRESS AND WEATHER REPORTING

IMPORTANCE OF SEEDS DISCUSSED

Minsk SEL'SKAYA GAZETA in Russian 1 Dec 84 p 1

[Article: "Seeds--The Basis of the Harvest"]

[Excerpts] The kolkhozes and sovkhoses of the republic are fully provided with seed potatoes for next year's harvest. But the specialists have reason for concern about storing them: weather conditions have caused the spreading of phytophthorosis, bacterial rots and other diseases. Moreover, it is frequently necessary to store moist tubers which have been harvested while it has been raining. On a number of farms this has led to higher temperatures in the piles of potatoes, and in some places--to overwarming and spoilage of the seed material.

Time has shown that on the majority of kolkhozes and sovkhoses in the republic the technology for preparing seed potatoes for storage has been maintained, and normal conditions have been created for preserving them.

Unfortunately, in the republic as a whole the seed potatoes are not being stored as well as they were last year. Local inspections established cases of violations of the recommendations of the Belorussian SSR Ministry of Agriculture and the BelNIKPO, which were published in SEL'SKAYA GAZETA on 11 October. Individual farms have put into the clamps moist tubers that have impurities of dirt, significant physical damage and rotting. They have not stored them temporarily (10-12 days) under sheds, in tents and in other premises. They have not applied such measures as partial drying and greening of the tubers. And they should have listened to these recommendations: the potatoes of medium-late and late strains called Loshitskiy, Temp, Sadko, Komsomolets and Verba were not physiologically ripe and had not accumulated the necessary quantity of dry substances. Therefore the tubers suffered severely. In spite of this, in some places they put them up for storage without sorting them.

On a number of kolkhozes and sovkhoses the seed tubers were damaged by frosts because the clamps were covered with straw too late.

The majority of farms have no observation journals.

Practice confirms that the preservation of the tubers is always high in permanent clamp areas that have active ventilation. But measures for equipping all clamps of potatoes with ventilation devices have not been carried out on the kolkhozes and sovkhozes of Dubrovenskiy, Ushachskiy, Chashnikskiy, Bradginskiy, Gomel'skiy, Kormyanskiy, Pukhovichskiy, Chervenskiy, Slavgorodskiy, Klimovichskiy and a number of other rayons.

The inspection showed that specialists of farms and rayon services do not provide the proper supervision of the storage of the seed potatoes. It is necessary to take immediate measures to rectify the situation. In the clamps or pits where the temperature is elevated in the mass of tubers it is necessary to lower it to the normative, and in places where areas where the tubers have been harmed are discovered, it is necessary to carefully sort them and place them in different clamps. Special attention should be devoted to preserving elite and high-grade seed potatoes of high reproductions.

All this will enable the kolkhozes and sovkhozes to preserve the seed potatoes well and to create a basis for a high yield of the "second grain" in the final year of the five-year plan.

11772

CSO: 1824/200

MAJOR CROP PROGRESS AND WEATHER REPORTING

STORAGE OF SPRING CROP SEEDS REPORTED

Minsk SEL'SKAYA GAZETA in Russian 4 Dec 84 p 1

[Article: "First-Class Seeds for Every Farm"]

[Excerpts] Many farms and rayons promptly brought the seeds up to high conditions. Thus in Mostovskiy, Berezovskiy and Pruzhanskiy rayons all of the seeds that were stored were brought up to the condition of class I for grain needs. This work is close to completion on the farms of Lyakhovichskiy, Zhabinkovskiy, Nesvizhskiy, Rogachevskiy, Kalinkovichskiy, Lidskiy, Novogrudskiy, Pukhovichskiy, Smolevichskiy, Gluskiy and other rayons.

So far only 718 kolkhozes and goskhozes have first-class seeds for planting grain. And in the republic as a whole 70.1 percent of the seeds that have been stored up and 78.3 percent of the need for grain seeds have been cleaned to the conditions of class I. Less than half of the seeds that have been stored up meet the conditions of class I on 357 farms, and on 18 kolkhozes and goskhozes they have none at all.

From year to year the farms of Mogilev Oblast are behind in cleaning seeds. Here only 57 percent of the seeds have been brought up to the conditions of class I, more than 10 percent of the seeds have not yet been checked for their planting qualities, and 4,000 tons that were checked ended up to be below standard and half of these were not suitable for planting because of germination. In Khotinskiy Rayon 29 percent of the seeds were of the first class and 15 percent were substandard, more than 200 tons of which (11 percent) were unsuitable for planting because of late cleaning and drying. The situation with respect to the preparation of seeds is the same in Mstislavskiy, Kruglyanskiy, Dubrovenskiy, Polotskiy and Deshenkovichskiy rayons where only 30 to 50 percent of the seeds were prepared for first classes.

Some farms are even worse at preparing seeds.

Sovkhozes of the Ministry of Fruit and Vegetable Farming are not preparing the seeds as well as they could. Thus on the sovkhozes of the Grodno fruit and vegetable farm 61 percent of the seeds were prepared for the first class while on an average for the oblast this figure was 74 percent. On the sovkhozes of

the Mogilev Fruit and Vegetable Farm these figures were 50 and 57 percent, respectively.

As usual, the work is being conducted poorly at enterprises of the BSSR Ministry of Procurements, where only 42 percent of the procured seeds have been cleaned up to high conditions. There are no first-class seeds at the Chauskiy, Mogilevskiy, Mstislavskiy, Klimovichskiy, Postavskiy, Orshanskiy or Lidskiy enterprises. At the Postavskiy, Mstislavskiy and Lidskiy enterprises more than 30 percent of the seeds are unconditioned.

Information About the Quality of Seeds of Spring Crops on Kolkhozes
and Goskhozes of the Republic as of 28 November 1984
(in percentages of the plan)

| | Oblasts | | | | | |
|---|--------------|----------------|---------------|---------------|--------------|----------------|
| | <u>Brest</u> | <u>Vitebsk</u> | <u>Cromel</u> | <u>Grodno</u> | <u>Minsk</u> | <u>Mogilev</u> |
| Conditioned among those inspected, including class I | 99.9 | 96.2 | 96.8 | 99.1 | 98.7 | 94.0 |
| As compared to need for grain | 94.7 | 69.0 | 82.0 | 86.0 | 87.8 | 56.0 |
| Increase of class I compared to need for grain during 12 days (beginning 15 Nov 84) | 13.5 | 9.0 | 8.7 | 7.9 | 6.6 | 3.0 |
| Flax seeds inspected compared to available | 63.9 | 17.4 | 36.2 | 22.6 | 38.9 | 10.0 |
| Amount conditioned compared to amount stored | 46.2 | 8.5 | 12.9 | 18.2 | 18.8 | 5.3 |
| Perennial grass seeds inspected compared to amount stored | 32.7 | 22.0 | 21.1 | 52.3 | 49.8 | 30.0 |
| Amount conditioned compared to amount stored | 27.0 | 18.3 | 16.1 | 44.2 | 41.7 | 23.6 |
| Seeds of class I compared to amount procured by enterprises of the Ministry of Procurements | 38.4 | 25.3 | 43.4 | 40.3 | 44.8 | 28.8 |

Mistakes of past years are being repeated by elite farms which put off until the winter period the preparation and sale of elite seeds to the seed farms. As of the report date little more than half of the seeds that had been stored up for sale had been checked. The elite farms of Mogilev Oblast have inspected only 35 percent of the seeds. More than 17 percent of the elite seeds that were inspected were considered to be unconditioned at the

experimental bases of Minsk Oblast. Not a single ton of elite seeds had been prepared at the Tursk, Glusk and imeni Shmyrev experimental bases.

The work for cleaning flax and grass seeds is proceeding extremely slowly. The electromagnetic machines are basically standing idle. As of the report date, 2,600 tons of flax seeds had been prepared up to planting conditions, or 13 percent of the amount that had been stored up. In Tolochinskiy, Lioznenskiy, Iv'yevskiy, Buda-Koshelevskiy, Kalinkovichskiy, Khoynikskiy, and Lyubanskiy as well as 10 rayons of Mogilev Oblast they have not prepared a single ton of long-fibered flax seeds, and in Cherikovskiy, Rossonskiy and Kormyanskiy rayons they have prepared no grass seeds.

It is necessary to deal with the cleaning of seeds of grain and pulse crops, flax and perennial grasses, and to take immediate measures to bring them up to high planting conditions.

11772

CSO: 1824/200

MAJOR CROP PROGRESS AND WEATHER REPORTING

ARREARS IN PREPARING SEEDS REPORTED

Minsk SEL'SKAYA GAZETA in Russian 25 Dec 84 p 2

[Article: "With a Slower Rhythm"]

[Text] As an inspection conducted by the BSSR people's control committee showed, the managers and specialists of the agricultural administrations of the Vitebsk Oblispolkom (deputy chief, Comrade Makarevich), many rayispolkoms and the majority of kolkhozes and sovkhoses have not provided for meeting the requirements of the directive agencies concerning bringing the condition of grain, pulse, flax and grass crops up to planting standards as quickly as possible. The established schedules for cleaning and inspecting the seeds are regularly missed.

As of 1 December of this year only 73 percent of the seeds of grain and pulse crops were included in the first class, and 12 percent were in the third class, while 25,300 quintals (3 percent) were below the standard.

The condition of the flax and grass seeds is especially disconcerting. Of these seeds, 86 percent and 44 percent, respectively, were not submitted for inspection. A total of 41 percent and 17 percent, respectively, were included among the substandard, including in terms of germination--33 percent and 11 percent, respectively. The farms of Vitebskiy Rayon have not begun to check the seeds at all. In Liozenskiy, Postavskiy, Rossonskiy and Tolochinskiy rayons they have only begun recently. The cleaning of the seeds was conducted slowly at the Lipel'skiy flax seed station.

On many farms of the oblast, instead of stepping up the rates of preparation of seed material, this work was halted on the day of the inspection. Here the managers and specialists, in order to cover up their inactivity, took the path of falsifying reports and eyewashing. The samples that were submitted to the rayon state seed inspection office for analysis were specially selected. The seed supplies registered in the state report were not all submitted or the reports were falsified. In a number of cases they were not turned over to the materially responsible parties for storage. Registration books are either kept perfunctorily or else they are not filled in at all.

On the kolkhozes and goskhoses of the oblast the seed supply for potatoes amounts to 271,000 tons, of which 7,800 tons are poorly stored. The proper

control over the condition of the tubers in each batch has not been arranged everywhere. As an analysis showed, on the Komintern Kolkhoz in Orshanskiy Rayon 48 percent of the 160 tons of tubers of the Ogonek strain were frozen because they were poorly covered with straw.

The management of the Oblast Strain Seed Association (chief--Comrade Altytsa) and its local services do not exert any central influence on the work of the specialized seed farms with respect to prompt preparation and delivery of seeds of high reproductions to the nonseed-growing farms, and they do not put a stop to cases of inefficiency and gross violations of state and planning discipline. Specialized seed-growing farms, even though they have a considerably better material and technical base than other kolkhozes and sovkhoses, are not keeping up with the assignments and schedules they have been given for preparing seeds. As of 1 December of this year they had sold the farms 24,000 tons of seeds of spring grain and pulse crops, or 80 percent of the plan. In Polotskiy, Dubrovenskiy and Beshenkovichskiy rayons these figures were only 32-45 percent.

The preparation of seed supplies is being carried out unsatisfactorily at enterprises of the Vitebsk Oblast Production Association for grain products (deputy chief--Comrade Savitskiy). With an assignment for 81,000 quintals, 74,800 have been prepared. Of these, 91 percent have been examined. They included 43 percent in the first class, 49 percent in the second class, 5.5 percent in the third class, and 1,700 quintals or 2.5 percent were substandard. At the Orshanskiy combine for grain products in the 6,200 quintals of spring crops that were prepared there are no seeds of the first class at all. The Paraf'yanovskiy, Postavskiy, Chashninskiy and Sharkovshchinskiy grain-receiving enterprises do not have any either. Moreover, at the Postavskiy grain-receiving enterprise 1,700 of the 5,400 quintals were substandard because of their lack of purity.

For unsatisfactory organization of meeting the requirements of directive agencies and implementing their own decisions concerning prompt preparation of seeds of high-quality spring crops and the failure to take measures to put a stop to cases of falsification and eyewashing, the deputy chief of the agricultural administration of the Vitebsk Oblispolkom, V. G. Makarevich, the chief of the Vitebsk Oblast Production Association for Producing Seeds of Agricultural Crops, I. D. Altytse, and the deputy chief of the Vitebsk Oblast Production Association for Grain Products, M. I. Savitskiy, were given a reprimand by the BSSR Committee for People's Control. It was demanded that they take immediate measures to rectify the situation. The notification from Comrade Makarevich that the farms of the oblast had accelerated the rates of preparation of the seed supply and that by 1 January 1985 all seeds of grain and pulse crops would meet the first class of the planting standard was taken under advisement.

The chief of the agricultural administration of the Beshenkovichskiy Rayispolkom, M. V. Burchits was given a severe reprimand, and the deputy chief of the agricultural administration of the Ushachskiy Rayispolkom, V. A. Zen'ko, was also given a reprimand. The agricultural administration of the Vitebsk Oblispolkom was instructed to consider the question of whether or not it would be expedient to leave A. I. Meshkov in the position of head

agronomist of the kolkhoz imeni Zaslono in Beshenkovichskiy Rayon after his criminally negligent attitude toward his job duties and his deception.

It was taken under advisement that the materials of the inspection of the farms which had allowed serious shortcoming in the preparation of seed supplies had been considered by the corresponding rayon people's control committees. The guilty parties were held materially responsible and were also disciplined.

The people's control committees and groups were instructed to step up control over bringing the seeds of spring crops up to high planting qualities and preserving them, and the guilty parties were to be held strictly responsible.

11772

CSO: 1824/200

MAJOR CROP PROGRESS AND WEATHER REPORTING

STAVROPOL SUGAR BEET HARVEST

Moscow TRUD in Russian 18 Oct 84 p 1

[Article by P. Gus'kov (Stavropol Kray): "Some Hurry While Others Wait"]

[Text] Heavy trucks loaded to the top with sugar beets are running constantly along the highways. They are going to the Rasshevat sugar beet receiving point on the outskirts of Novoaleksandrovsk. They have prepared well for the harvest this year. It only takes a couple of minutes to do an analysis for the sugar content and the purity of the cargo that is delivered and to pack it in clamps. And then the trucks are again already hurrying along the familiar road to the farms. Some of the cargo that comes in is sent immediately for processing to the neighboring city of Izobil'nyy and some of it is preprocessed and will be stored in clamps at the Rasshevat point.

"We began the harvest much earlier than ever before," says the director of the Temizhbebskiy Sovkhoz, V. G. Miroschnichenko. "So far it is too early to say what the final productivity will be. But we are confident that it will be no less than last year's. Not only were we helped by the rains that came at the end of the summer, but the agrotechnology has improved and there has been greater responsibility on the part of those who tended the sugar beet plantations. And the main thing is that an earlier harvest makes it possible to obtain more sugar...."

Novoaleksandrovsk workers are not the only ones in the Stavropol area who this year are concerned not only about the weight of the harvest, but also about increasing the sugar content in the roots. The research of scientists and the practice of the best farms convince us that in the northern Caucasus in the third 10-day period of September the sugar beets are really sweet. And it is precisely during these days that the mass harvest has gotten under way on many farms of the steppe zone of the kray. Harvesting complexes that are large, equipped with technical equipment and provided with well-trained personnel are now working hard on the plantations of Kochubeyevskiy Rayon. Having achieved excellent results in the grain harvest, the Kochubeyevskiy workers do not intend to fall behind in the "sweet harvest."

The sugar beet growers of Stavropol Kray are more and more extensively applying advanced methods of labor organization. On the Izobil'nenskiy experimental farm the machine operators of the harvesting complex, which is

headed by D. A. Zlobin, while changing over to the collective contract, are doing the work with 10 people while previously it required 18.

The introduction of the brigade cost-accounting [khozraschet] contract in the collectives of sugar beet growers has also created a good basis for the development of socialist competition throughout the entire chain of the harvest-transport-processing conveyor. In the agreements concluded by the kolkhozes and sovkhozes with the truck conveyors of Sel'khoztrans and the collectives of city drivers participating in the harvest, envision measures for increasing their interest in continuous transportation of the harvest. On the other hand, workers of the sugar refineries have also made commitments to improve the processing of the roots and not to allow them to spoil on the plant areas. The cooperation has made it possible to put the Izobil'enskiy sugar refinery into operation almost 2 weeks ahead of the usual time.

The first weeks of the harvest convince us that the practice of the best farms of the kray makes it possible to organize rapid harvesting of root crops on all sugar beet plantations of Stavropol. This, in turn, makes it possible to increase the production of sugar as a result of reducing the season for processing it at the plants as well.

But there has already been some lagging behind the planned deadlines for the harvest which in any case were late in the Karachayevo-Cherkess Autonomous Oblast. They were late here on such a large farm as the Kolkhoz imeni Krasnyye Partizan in Ust'-Dzhegutinskiy Rayon. Mass sugar beet harvesting was given a good start in Khabezskiy, Prikubanskiy and other rayons. Moreover, the farms of the autonomous oblast have a powerful fleet of sugar beet harvesting combines, almost 150 units, and a sufficient quantity of trucks. The combines are still standing idle, the trucks have been used for less urgent work, and the processing capacities of the Ekren-Shakharskiy Plant have only been half-loaded.

The reason is the same as it has been in past years. Having concluded agreements for cooperation with the plant, the kolkhozes and sovkhozes have preferred to remain silent about one of the points: they must settle accounts with them not only in terms of the tons of sugar beets delivered to the enterprise and the sugar content at the time they are received but, above all, in terms of the amount of sugar that is obtained from the roots that are sent to Ekren-Shakhare. The oblast agricultural administration does not hide the fact that many have been waiting. For in October the sugar beets, while rapidly losing their sugar content, gain weight just as rapidly. And this is still the main indicator for participants in the competition for the harvest in the Karachayevo-Cherkess Autonomous Oblast. But the problem is that there is not only no more sugar, but less, and this costs too much in the final analysis.

11772

CSO: 1824/190

MAJOR CROP PROGRESS AND WEATHER REPORTING

IMPORTANCE OF SUGAR BEET SHIPPING STRESSED

Moscow TRUD in Russian 23 Oct 84 p 2

[Article by S. Prokopchuk: "Truck Convoy on the Side of the Road"]

[Text] Sugar refining season is in full swing in the Ukraine. It will be necessary to dig and ship to the plants more than 50 million tons of sweet roots. Only then will it be possible to meet this year's commitments: to obtain no less than 322 quintals of beets per hectare and process 32-33 quintals of sugar. Up to this point the loading of sugar beets that have already been dug and delivering them to the clamp-forming areas of the sugar refineries has been a bottleneck in the harvesting conveyor up to this point. When this link of the chain breaks it usually ends up in large losses of the crop. In Kiev, Cherkassy and several other oblasts of the republic they are managing to reduce these losses to a minimum. How?

In the beams of the spotlights the immense clamps of sugar beets look like the crests of ocean waves, and the clamp-forming machines (BUM's)--like fragile boats on the turbulent water. But when you are in the cab of one of these you understand how skillfully people control this ever-growing flow of sweet roots.

It has long been dark but there is no end to the convoys of trucks. The processes of weighing and unloading the sugar beets here, at the Kozhansk sugar combine which is located in Kiev Oblast, are efficient and continuous. You do not find the long lines here nor the nerve-wracking arguments at the scales and in the laboratory. A couple of minutes pass and the KamAZ with trailers which has left more than 2 dozen tons of sugar beets at the BUM transporters is on its way back--to the field. And then the next truck train loaded to the top comes up to the elevator.

In Fastovskiy Rayon for 4 years now for shipping sugar beets they have been applying the shuttle method of utilizing truck trains with two (for each truck) exchangeable trailers. They spend 6-10 minutes on loading.

Here is an innovative work system: a ZIL or KamAZ returns from the plant to the field, unhitches two empty trailers and goes up to the loader or combine in order to fill the back of the truck with sugar beets. Then he hitches up two loaded trailers that are waiting for him. While the truck train is on its way to the receiving point of the sugar refinery and back the other empty trailers, in turn, are filled and taken to the road with special tractors.

This, of course, is the ideal. One cannot always find an "extra" tractor on the farm, or extra trailers to exchange in the ATP, but nonetheless the results of the work of the Fastovskiy workers speak for themselves, and this is under less than the best conditions. Last season, for example, as in preceding ones, the drivers of ATP 11066 shipped all of the sugar beets from the rayon with their own equipment, 30 truck trains. Five years ago they would bring 8-10 times as many machines here. In just one autumn the "sugar convoys" saved 112 tons of fuel, and the cost of delivering the sugar beets decreased by 25 percent. The same effect is expected this year.

The Fastovskiy method is making its way very slowly, however, and with difficulty. Even in the Ukrainian SSR Ministry of Automotive Transportation itself, where the method originated. Now, for example, 600 of the ministry's truck trains are to be working according to the Fastovskiy method for shipping sugar beets in the republic. In the middle of October there were only half this many truck trains working as "shuttles" with two exchangeable trailers. There are several reasons for this. Here is one of the most important. It turns out that the method, which is very progressive and necessary, and approved, by the way, last year by the Ukrainian Council of Ministers, has never finally received its "right to citizenship": the plants that manufacture the trucks have never given it the "go-ahead."

There is a serious reason for their position. The fact is that the KamAZ, for example, according to its technical passport is intended to haul only one trailer, that is, to haul in the back and in the trailer no more than 16 tons of cargo. The maximum load for the ZIL is 12 tons (also with only one trailer).

What do you mean, the reader will say, those heroes of the harvest--whose drivers we glorify each year in the newspapers, on television and on radio for the art of controlling an armada of three-four trailers full of grain?

"All this," noted B. Maslovskiy, the chief of the administration of GAI MVD UkrSSR, "is the initiative of the automotive enterprises, independent activity, to which we shall not object if the plants guarantee the safety of the operation of these truck trains."

Let us say directly that the obstacle is not departmental. The technical equipment requires a strict and responsible attitude toward it. But how deceptive the effect of the Fastovskiy experiment is! The shuttle method would release hundreds of machines throughout the republic and largely solve the driver problem. Another important thing is that today both the weighing equipment and the unloading equipment at the majority of elevators and receiving points makes it possible to service such truck trains easily and quickly. But their application with two trailers is actually possible only

when individual components and designs of the ZIL's and KamAZ's are strengthened, which requires significant design work.

Today the automotive enterprises themselves are reinforcing the frames and crossbars. And they are doing this at their own risk. And not only that. The Fastovskiy truck trains, for example, on the basis of the ZIL can easily ship 18 tons each because their "native" motors are reinforced with a piston group from Ural.

But all this is amateur work. The reliability of the truck train should be provided in the plant shops. Incidentally, the collective of the Kama automotive builders have already reacted in a businesslike way to the suggestion of the drivers of the Ukraine. For the third month now in the Donbass they have been testing the modernized models of KamAZ's which are capable of transporting up to 24 tons of cargo with two trailers. They have increased the engine capacity somewhat as a result of turbo supercharge and they have improved the brake system.

"Excellent machines," the head engineer of the Donetsk Oblast administration for truck transportation, V. N. Glivinskiy, told me. "Now if only they would begin mass production of them more quickly."

But when speaking about adapting the trucks for truck trains one cannot forget about the fact that it is necessary to utilize existing automotive transportation better (more efficiently!). We are speaking about more reasonable operation during the harvest even of those trailers which are available in the automotive enterprises. Today hundreds of machines are operating separately, without even one trailer, while many of them are simply rusting under the sheds of the ATP's because they are not in good working order, especially the swivel plates. Is this not why for this year's sugar beet harvesting season the automotive transportation workers have played it safe, taking away from other, no less important economic shipments as many trucks as they have sent for shipping sugar beets during years with the most generous harvests. But even this immense amount of technical equipment is not keeping up with the assignment. The time lag between the digging of the roots and their shipment to the plantw remains large.

The residual sugar beet raw material on the fields of sugar beet-growing oblasts is in excess of 1.5 million tons. And every extra day the roots remain on the sides of the fields--in the sun and wind--is tantamount to a 2 percent loss of weight. Losses during transportation are significant because of tardy removal of the roots that have been left by the combines. But still the main problem is that the sugar beets are transferred into clamps while waiting for shipment. Incidentally, in addition to the Fastovskiy method, there is the experiment which has proved itself well in Cherkassy Oblast where for the second year they are using the central shipment method for harvesting sugar beet plantations. Losses of the raw material are the lowest in the republic here. Here they have boldly turned to unified centralized and dispatcher control of the work of automotive transportation, regardless of its departmental jurisdiction. And all the transportation equipment used for shipping sugar beets is not dispersed among the kolkhozes and sovkhozes, as was previously the case, but assigned to the sugar

refineries. The centers that have been created at them for controlling the harvesting and transportation work are under the jurisdiction of the directors. That is on the "field-plant" sugar beet conveyor there has finally appeared a single manager who, incidentally, the most interested in highly effective utilization of the rented machines: it is known that it is neither the kolkhozes nor the sovkhoses, but the sugar refineries that are held responsible for transportation services.

During the past season the Kamenskiy sugar refinery--the initiator of centralized shipments--received an additional 161 tons of sugar, and the farms of the rayon--270,000 rubles in additional profit. As a result of centralized shipment with diesel truck trains the Ministry of Automotive Transportation and the Goskomsel'khoztekhnika today have more than 1,500 small vehicles belonging to the kolkhozes and sovkhoses in the oblast, which were previously used for transporting sugar beets and are now being used for shipping other agricultural products that are no less crucial. The experience of the Kamenskiy workers is being persistently introduced in the oblast because of the consistent position of the party obkom and the oblast sovkhos union and their great amount of organizational and educational work.

"How many sugar refineries in the branch have followed their good example?" I asked V. V. Gorbunov, the chairman of the Ukrainian Republic Committee of the Trade Union of Food Industry Workers.

"Actually, no more than half. We do not have this calculation. But the new is always introduced timidly. Here, of course, even we are not working at full force, and our associates are the committees of truck drivers and agricultural workers."

Self-criticism is a positive feature, but is it not too late to manifest this quality at the height of the harvest? In this manner, apparently, the coordinator of the new division of the Ukrainian Sovkhos Trade Union, the division for questions of the agroindustrial complex, should play his role more boldly and confidently.

11772

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MAJOR CROP PROGRESS AND WEATHER REPORTING

IMPROVEMENT IN SUGAR BEET TRANSPORTATION NOTED

Kiev RABOCHAYA GAZETA in Russian 2 Nov 84 p 1

[Article by L. Yakimenko, chief of the production division, and V. Krylov, senior engineer of Ukrorgavtotrans: "Success Lies in Friendly Labor"]

[Text] The data from the operations center of the republic's Ministry of Automotive Transportation show that at the beginning of the season the trucks were not working as effectively as they should have been for shipping the sugar beets. The reason, in our opinion, was that the oblispolkoms of the sugar beet-growing oblasts had obviously increased their orders for transportation. And the kolkhozes and sovkhozes were in no hurry to dig the sugar beets because they were waiting until they gained more weight. The concern for high productivity is quite understandable. But one cannot achieve high results and allow...idle time of transportation.

It seems that in the future the councils of the oblast agroindustrial associations will utilize the rolling stock of the Ministry of Automotive Transportation more efficiently. It is their direct duty to coordinate the interests of the partners and be concerned about achieving high joint results. A good deal also depends on the rayon agroindustrial associations. They are the ones that should help the truck drivers to eliminate the difficulties that arise in some places.

There have been large amounts of idle time of means for shipping sugar beets at the Smelyansk and Shpolyansk sugar refineries in Cherkassy Oblast, the Baltsk--in Odessa Oblast, the Lebeda--in Sumi Oblast, and the Ostrozhskiy--in Rovno Oblast.

The efficient work of the sugar beet conveyor depends on meeting the schedule for shipping the sugar beets which is calculated on an electronic computer. While in Dnepropetrovsk, Kharkov and Khmelnytsky oblasts at the beginning of the season it was met by 128, 125 and 112 percent, respectively, in Ternopol, Cherkassy, Ivano-Frankovo, Lvov and Nikolayev oblasts this indicator ranged from 17 to 70 percent. "Outside" trucks were especially unfortunate. Thus, for example, in Ternopol Oblast the "masters" met the schedule for shipments by 70 percent, but the drivers from Lvov, Transcarpathia and Ivano-Frankovo met it by only 40 percent. It is not surprising that the output of the sugar

beet trucks here was for a long time two-thirds to one-half the ministry-wide level.

A couple of words about Vinnitsa Oblast. As we know, its sugar beet plantations are the largest in the republic. Therefore truck drivers have come there from the south of the Ukraine to help. But in Pogrebishchenskiy, Barskiy, Nemirovskiy, Khmel'nitskiy and Kazatinskiy rayons on the territory of the sugar refineries there were not even any operational dispatcher points. How do they intend to maneuver the equipment there? It has long been known that it is best to put the directors of the sugar refineries in charge of the automotive transportation, regardless of their departmental jurisdiction. But in the aforementioned rayons the kolkhoz chairmen do this. Because of their mistakes the percentage of fulfillment of the schedule for shipments does not exceed 82.7.

"To harvest and ship the sugar beets within the optimal time periods and with the least possible expenditures of labor!"--this is the initiative of the drivers of the Khmel'nitskiy Oblast Automotive Transportation Administration. It has been supported throughout the republic. In order to fulfill the commitments that have been made, the drivers of sugar beet trucks need the support from all partners in the agroindustrial complex. It is necessary to organize the work of the harvest and transport conveyor in two or three shifts, to provide for good work of the loaders, and to utilize progressive methods of labor organization, particularly the Yompol'skiy and Fastovskiy methods.

11772

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MAJOR CROP PROGRESS AND WEATHER REPORTING

UDC 631.37:629.114.4

GRAIN HARVEST TRANSPORTED SUCCESSFULLY

Sverdlovsk URAL'SKIYE NIVY in Russian No 6, Jur 84 pp 52-53

[Article by A. Kokorin, first deputy chairman of the Orenburg Oblispolkom: "Control of the Transportation Conveyor"]

[Text] The December (1983) Plenum of the CPSU Central Committee emphasized once again with special force the role played by automotive transportation in our country. This places a certain responsibility on the economic managers and party and soviet agencies for improving its work and economizing on fuel and lubricants.

The harvesting of the crops and procurement of the products depend largely on efficient organization of the transportation conveyor. It accounts for 80 percent of all cargo shipments. The annual volume of agricultural shipments in the oblast is in the range of 70 million tons, and 22-25 million of these tons are shipped during the harvest period.

Last year there were more than 21,000 grain-harvesting combines, 15,000 windrow harvesters and more than 35,000 trucks and tractors with trailer carts operating on the fields. This equipment was included in 1,300 harvest-transport complexes or 4,650 teams.

We have accumulated experience in unified operational management of transportation, regardless of the department to which it belongs. We have also made a changeover to managing the technology of the entire process, taking into account the capabilities of the combine fleet and the procurement organizations.

All means of transportation participating in harvesting the crops are under the control of the operations dispatch service which is created on the threshing floors of the kolkhozes and sovkhoses and in the rayon and oblast centers. Operational management of the shipment of the products along the field-threshing floor route is provided by the transportation service which is created on each farm. It gives information about the course of the harvest to the rayon management centers, which coordinate the utilization of all means of transportation in the rayon. An oblast center for controlling the shipments is created under the transportation administration and it is headed by the deputy chief of this administration who is at the same time a member of the

oblast operations staff for managing the entire technological process of harvesting and transporting the crop. Representatives of Sel'khoztekhnika, the grain products administration, the highway and the state automotive inspection team are also include in the oblast management center.

Centralized control of all means of transportation that have been enlisted for the harvest has made it possible to correctly plan the shipments and to operationally maneuver the automotive transportation in the farm, rayon and oblast throughout the entire technological cycle of field-threshing floor-elevator, and field-silage trench.

The managers of the kolkhozes and sovkhoses have begun to be more concerned about effective utilization of transportation. When servicing combines they have made more extensive use of tractor carts, hopper-accumulation carts and automotive trailers. The idle time of combines during unloading has decreased significantly and the turnover of the trucks has been accelerated. In Pervomayskiy Rayon the brigade of Hero of Socialist Labor V. N. Kasobutskiy uses only self-dumping tractor trailers. On the Komsomol'skiy Sovkhoz in Adamovskiy Rayon in the center of the fields they have constructed a container which will hold 200 cubic meters. They manage to take care of 10-15 combines with three to four dump trucks. And the number of trucks has been cut in half. It takes 24 tons of metal to construct such a hopper-accumulator, the estimated cost of which is 10,000 rubles. The expenditures are recouped within one harvesting season.

Large changes have also taken place in the organization of the labor of the combine operators and truck drivers. Let us refer to the example of Svetlinskiy Rayon. Last year they created 44 harvesting-transport complexes here, which include 70 teams. The complexes also included 235 combines (and a total of about a thousand of them participated in the harvest work in the rayon). They worked on two shifts. These combines threshed 65 percent of the gross harvest of grain. One should take note of the excellent work of the combine workers who came from Orenburg. They were joined together into eight teams (36 combines) and mowed more than 20,000 hectares and threshed more than 173,000 quintals of grain. The complexes of motor vehicles assigned to them were utilized at full capacity. They were not held back on the fields.

Valuable initiative was exhibited by Orenburg POGAT-1. Each year it sends to the Svetlinskiy Sovkhoz a comprehensive brigade of drivers and combine operators.

On the majority of farms of the oblast the harvest-transport complexes are staffed with their own machine operators. In individual rayons they also include representatives of industrial enterprises who are temporarily included along with the workers of the kolkhozes and sovkhoses. These complexes are provided with automotive transportation by enterprises and other organizations. They include four to six combines and three to five trucks. The work is organized either according to individual piece-rate wages or under a single order. In the former case the grain that is threshed and delivered to the threshing floor is accounted for with special coupons, and in the latter case the overall quantity of grain is taken into account.

The initiator of the introduction of the collective contract for agricultural shipments was the first brigade from the Buguruslanskiy truck convoy headed by N. V. Stepanov. In 1983 this collective (the brigade has 15 ZIL-131 trucks with trailers) has for the ninth time concluded an agreement with the Kolkhoz imeni Il'ich in Buguruslanskiy Rayon. It has committed itself to delivering all the grain from the combines to the threshing floor and from the threshing floor to the grain receiving point, and also shipping the grain mass to the places for preparing silage and haylage.

The contract agreement has combined transportation workers and kolkhoz combine operators into a friendly harvest-transport complex which has included three harvesting teams (six grain-harvesting combines in each), a team for preparing silage (four combines) and a transportation team consisting of 15 trucks. As a result, six truck trains have successfully served 18 grain combines and shipped 9,900 tons of grain to the threshing floor and 3,500 tons of grain to the elevator. The nine trucks that were working on procuring feeds delivered to the trenches 20,200 tons of grain mass and other feeds. During the harvest time the brigade shipped a total of 33,600 tons of agricultural cargo, relieving the kolkhoz of many of its concerns. The assignment was fulfilled by 161 percent. The payment was made according to a single contract, taking into account the coefficient of labor participation.

Centralized detachments are also becoming widespread here. They ship up to 75-80 percent of the grain to the grain-receiving points precisely on schedule. Consisting of large truck trains, they make it possible not only to reduce the demand for transportation, but also to provide a great savings on fuel and lubricants. Calculations show that when shipping the 223,000 tons of grain released by Pervomayskiy Rayon to the grain-receiving point, the same kind of ZIL trucks would have required 3,565 tons of gasoline while the truck trains of the KamAZ family required 1,380 tons of diesel fuel. The savings was 2,185 tons.

The conclusion of large KamAZ trucks in transportation work raises a number of problems which require solutions. During recent years the procurement organizations have done a great deal to make sure that these vehicles do not stand idle. They have installed more than 450 large dumpers at the elevators. But this has not fully solved the problem of receiving the grain.

The loading mechanisms at the kolkhoz and sovkhos threshing floors are still not powerful enough. It should take 5-7 minutes to load a KamAZ, but in practice this takes 30-40 minutes. The kolkhoz and sovkhos threshing floors do not meet the requirements of progressive high-speed methods of harvesting and transporting grain. As a rule, the large-cargo trains cannot be weighed there.

Intrarayon and intrafarm operational communications are still poorly arranged in the oblast. There is no clear-cut policy for providing fuel and lubricants for trucks that belong to centralized detachments. According to the established practice, the trucks of all departments are fueled on the kolkhozes and sovkhoses. This is justified when the drivers work on the circuit of field-threshing floor. But when they ship grain to the elevators

and serve, as a rule, not one, but several rayons, the policy for fueling and allotting fuel must be changed.

It seems to us that the shipment of grain by centralized detachments should become more widespread. Then the large trucks will be utilized more effectively. Usually the managers of the farms and rayons, when determining the number of trucks to be used for the harvest, try to overestimate their needs. Then none of them is responsible for surplus technical equipment or for its utilization. In order to put an end to this, it is necessary to change the policy of accounting for automotive transportation that is taken out. With the existing provisions the managers of the farms which have surplus trucks are actually not responsible for their forced idle time or low output.

It would be difficult to overestimate the role of the centers for controlling shipments as organizers of the transportation service for the harvest. To be sure, this has been impeded by the economic separation of the agricultural enterprises among themselves and also their separation from the departments and procurement and processing organizations that service them. Now it is necessary to centralize these functions in agroindustrial associations and to create a center for controlling shipments as part of the RAPO. The practice of centralization shows that with efficient organization of the matter it is possible to significantly reduce the quantity of automotive transportation that is enlisted for harvesting the crops.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

MOSCOW TRUCKS USED ON ORENBURG FIELDS

Moscow MOSKOVSKAYA PRAVDA in Russian 12 Aug 84 p 1

[Article by M. Zabrodskiy, deputy chief of the consolidated truck convoy from Moscow in Orenburg Oblast: "On the Fields of the Orenburg Area"]

[Text] These days on the highways and country roads of many rayons of Orenburg Oblast one can find trucks with Moscow license plates. On the cabs of the trucks are the emblems of automotive enterprises of the capital. This year, following an established traditions, more than 2,000 drivers from Glavmosavtotrans have been sent to help agricultural workers. These workers along with the technical equipment were sent from Moscow on 22 July and 3 days later the Moscow workers had shipped 4 tons of grain from the new harvest.

The first to begin shipping cargo from the new harvest were the drivers of 300 trucks from enterprises of the Mossnabpromtrans Association. Many of them when delivering grain from the threshing floor to the elevator over a distance of up to 120 kilometers managed to make two to three trips in a day. As in past years, on the fields of the Orenburg area the drivers from the capital do shock work. For the majority of them the fulfillment of the shift assignment by 150-170 percent has become a common daily norm.

The kolkhozes and sovkhozes of Orenburg Oblast prepared ahead of time for greeting the Moscow drivers. This is not the first harvest season in which automotive transportation workers from the capital and farmers of the oblast are working hand in hand. The farmers have efficiently distributed the people and technical equipment, organized food service for the drivers, and have been concerned about organizing repair and technical servicing of the trucks.

The excellent preparation of the technical equipment helps the Moscow workers to engage in the shipping of cargo from the new harvest quickly and efficiently. The trucks intended for shipping silage have been equipped with protruding edges. Studying the experience of past years, the automotive transportation workers have done a good deal for maximally reducing the losses when shipping the grain.

The first announcement of a record output came into the staff of the consolidated truck convoy of Moscow from the Seben'kovskiy Sovkhoz. The driver of the Automotive Combine No 33 of the Mostorgtrans Association, A.

Ivanov, is delivering grain to an elevator located 70 kilometers away from the sovkhoz. During a day the leading driver manages to make four trips with cargo from the new harvest, doubling the previously established shift assignment.

In Oktyabr'skiy Rayon in Orenburg Oblast excellent work is being done these days by drivers of the 2nd, 22nd, 24th and 26th automotive combines of the Mosstroytrans Administration, and the truck convoy of the model enterprise of Moscow--Automotive Combine No 1--has begun to work on the fields of the farms of Tyul'ganskiy Rayon. By the beginning of August the drivers of the consolidated truck convoy had shipped more than 190,000 tons of agricultural products, including more than 108,000 tons of grain from the new harvest.

11772

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LIVESTOCK FEED PRODUCTION

INCREASE MIXED FEED PRODUCTION, IMPROVE QUALITY

Moscow SEL'SKAYA ZHIZN' in Russian 5 Jan 85 p 1

[Article by A. Sharik, director of Glubokskiy Mixed Feed Plant, L. Rybakova, director of the Planning-Technical Laboratory and A. Soyko, dosage worker: "We Guarantee Quality"]

[Text] The collective of the Glubokskiy Mixed Feed Plant of Vitebsk Oblast acted as initiator of socialist competition among enterprises of the mixed feed industry. The collective promised to supply enterprises with mixed feed in the full assortment and with high quality during the winter period. During the first 6 months of the current year it intends to increase the production of mixed feed by 700 tons as compared to levels for the corresponding period last year.

We understand well the needs of livestock farmers who strive to economize on and efficiently utilize feeds, thereby increasing the return on them. Of course, there is a big difference between whether the farm worker throws dry grain into the feed box or whether he provides animals with full-value mixed feed. Our work greatly affects milk yield in cows, weight gain in hogs and egg-laying capacity in hens. This is why we try to produce feed in a full assortment and to constantly improve its quality.

Quite recently our plant produced feed only for feeder hogs. Now new forms of production have appeared. We prepare coarse-ground wheat for egg-laying hens, broiler chickens and chicks. A bird can eat and assimilate such crushed granules better. Loose and granulated feed is produced for the dairy herd and for calves as well.

In order to increase the production of mixed feeds by 700 tons we must utilize raw materials more efficiently. We replenish reserves by means of local resources. We have concluded contracts with enterprises in the rayon for the delivery of grass and ephedral meal, in exchange for which these enterprises may obtain ready mixed feed. Of course, this is advantageous to them and to us. Mutual demands for the quality of raw materials and ready products are increasing. We utilize other supplementary sources as well. All of this will enable us to produce hundreds of tons of above-plan mixed feed.

Once per month we hold quality days, to which we invite our partners in the agro-industrial complex--the suppliers of raw materials as well as consumers. Every such meeting is attended by plant specialists and directors of shops and sections. We study the fulfillment of decisions of the preceding quality day. We strictly punish those who are guilty of violating technology. We control the fulfillment of contractual obligations between the plant and enterprises.

Of course the variety of our enterprise's product assortment depends on the supply of raw materials. We do not always receive everything we need. Thus it is all the more important to utilize everything supplied better. To do this, the republic's ministry of procurement uses computers to calculate mix recipes on the basis of existing components and production output plans. For every type of animal there are up to 20 different mixes, and there are our own variants in addition to this. The enterprise has organized the strictest control over the quality of supplied raw materials. Quality is checked as the raw materials arrive at the plant. Laboratory workers take samples from every truck and railroad car that comes in. If something is not up to standard the entire batch is returned to the supplier. We do the same with unmarked bags of grass meal when the expiration date for its use is unclear.

During the period of feed procurement plant representatives and workers from the quality laboratory travelled to enterprises and carried out on-the-spot analyses. Last summer crumbling grass granules began to arrive from Kolkhoz imeni 22 Parts"yezd. Our specialists travelled into the fields, but everything was in order there. Then together with kolkhoz representatives they checked the operation of units producing vitamin-enriched meal and determined the reason for the damage--the technology for producing granules was being violated.

Ready products are controlled frequently. When mixed feeds are being produced an analysis is made every 2 hours and while they are in storage quality is checked several times per month. Several production changes were made to improve mixed feeds. Previously, for example, we could not control the degree to which grain was crushed. But for animals, especially young ones, it is very important that no uncrushed barley or corn grain appear in the feed box. It was decided to place additional equipment on lines moving middlings. After this change the quality of products improved significantly. Poultry farmers have been asking for a long time to include fats in the mixed-feed recipes for egg-laying hens and broiler poultry. Now the installation of the corresponding equipment has been completed at the plant.

The feed zootechnologist of the livestock-raising complex of Lovzhanskiy Sovkhoz recently spoke at one of the quality days about the good quality of the plant's products. This enterprise acquired a batch of mixed feed for calves. The batch bought by the enterprise corresponded to standards for all indicators. But the productivity of animals speaks best of all about the high quality of mixed feed. In Druzhba Kolkhoz of Postavskiy Rayon, for example, 500-gram daily weight gains are achieved in feeder hogs.

We try to introduce new, contemporary forms not only into the technology of producing mixed feeds but into the organization of people's labor as well. With the introduction of collective contracts there has been a sharp drop in the turnover of cadres, labor productivity has increased and discipline has been noticeably strengthened. Wages for workers are calculated with a consideration of the coefficient of labor participation; here the quality of production is taken into account. Four shift brigades from the production complex are working in a new manner at the enterprise and two start-to-finish production teams are working at elevators. Previously, seven brigades worked three shifts at these grain storehouses but now they have been combined into two collectives. The interchangeability of knowledge of related professions allows a separation worker, for example, to work in transportation or a mechanic to be the machine operator of a railroad-car loader. Previously it often happened that after a brigade completed its shift it would simply leave, without even fixing broken equipment. Now people are making sure equipment is in working order, repair it if it is not, clean up their section and only then allow the next shift to begin work. Both the personal and collective responsibility of workers has grown.

With each passing year the area to which the plant's products are delivered expands. They are sent to 277 enterprises in the oblast and to seven rayon consumers' cooperatives. We feel that this is not the limit of our possibilities. As concerns the quality of mixed feed, this the plant does guarantee.

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LIVESTOCK

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ROLE OF PROGRESSIVE TECHNOLOGY IN MEETING HOGBREEDING GOALS

Moscow SVINOVDSTVO in Russian No 12, Dec 84 pp 2-4

[Article by F. Pochernyayev, corresponding-member of VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin]: "Important Factors in the Continued Intensification of Hogbreeding"]

[Text] With the goal of steadfastly increasing the well-being of the Soviet people the May 1982 Plenum of the CPSU Central Committee passed the USSR Food Program for the Period to 1990 and elaborated measures for its implementation.

Hogbreeding will play a significant role in fulfilling the program and in particular in dealing with the meat problem. Hogs are multiparous, mature more rapidly than other types of animals, are characterized by the highest digestibility coefficient and adapt relatively quickly to industrial technology; their meat yield upon slaughter is 20 percent higher than in cattle.

In the USSR, pork production should equal 6.5 million tons (slaughter weight) by 1985 and 7-7.3 million tons by 1990. This quantity of pork should be produced without increasing the herd and solely by means of increasing the intensity of the branch.

The genetic fund selected by breeders allows us to produce 20 piglets and 2 tons of pork annually per basic sow. Leading enterprises have achieved such indicators; they are skilfully coordinating production and the efficient use of green, succulent and concentrated feeds and introducing progressive methods of zootechnical work and progressive technology, thereby achieving 100 kilograms and more of weight gain per head. In these enterprises feed expenditures per unit of production are 20 percent lower, since here the animals that are fattened are characterized by more intensive growth and metabolism.

The country's breeding enterprises achieved high productivity indicators with well-selected animals using traditional technology for raising piglets in small but warm facilities and summer camps upkeep. In 1983 11.4 piglets were produced per farrowing, milk productivity equalled 60.7 kilograms and the weight at weaning of one piglet at the age of 2 months and of the entire litter was 19.9 and 204.7 kilograms respectively. The young animals achieved a live weight of 100 kilograms in 191 days with controlled feeding; here average daily weight gain equalled 697 kilograms with an expenditure of 3.84 feed units per kilogram of weight gain.

The progeny of some boars yields 850 grams of weight gain per day, with an expenditure of 3.2-3.4 feed units per kilogram of weight gain.

At the present time, breeders are working to develop new rapidly-maturing breeds, types and lines in a meat direction, and specialists in the area of feeding have developed formulas of full-value mixtures, enabling us to raise young weighing 45-50 kilograms at the age of 4 months and capable of gaining 700-800 grams per day during subsequent fattening.

Many leading specialized enterprises produce 22-25 piglets per basic sow (with a consideration of those under examination) and 2-2.5 tons of pork (table) using their own feed base.

| Enterprise | Number of sows | Number of piglets produced per sow | Amount of pork produced | |
|--|----------------|------------------------------------|-------------------------|--------------------|
| | | | Total (tons) | Per sow (quintals) |
| Sovkhoz imeni Kuybyshev, Orzhitskiy Rayon, Poltava Oblast | 660 | 23.5 | 1,740 | 26.4 |
| Avrora Kolkhoz, Tsarichanskiy Rayon, Dnepropetrovsk Oblast | 1,500 | 27.3 | 3,323 | 22.1 |
| Pobeda Kolkhoz, Pokrovskiy Rayon, Dnepropetrovsk Oblast | 1,020 | 22.3 | 2,798 | 27.4 |
| Kolkhoz imeni Lenin, Znamenskiy Rayon, Kirovograd Oblast | 1,110 | 24.9 | 2,136 | 19.4 |

The highly intensive development of hogbreeding in these enterprises is based on a firm feed base which corresponds fully to the program for developing a highly productive maternal herd, for utilizing sows better and for differential feeding depending on physiologic condition and the age of animals. Most importantly, these enterprises have developed good labor collectives of workers and specialists who have successfully mastered the achievements of science and progressive practice and who love their profession.

Practical experience shows that without the production of green and succulent feeds it is difficult to raise healthy young animals.

Fifty to 60 percent of the personal feed base of leading enterprises consists of perennial leguminous grasses. Moreover, they raise sufficient quantities of feed beets, squash and carrots, i.e. crops with a low level of cellulose (up to 7 percent). In nutritive value, green and succulent feeds make up 25-30 percent of the ration.

Many enterprises, interpreting the essence of industrial production too narrowly, depend only on concentrates and have forgotten crop rotations on

farms. The shortage of mixed feed forces these hogbreeders to excessively concentrate the ration with coarse feeds having a high cellulose content.

Precise physiological experiments have established that for hogs every percent of cellulose in the ration above 8 percent decreases the digestibility coefficient of other feeds by 2 percent. Nevertheless, it is well-known that during some periods the level of cellulose in hog rations reaches 15 percent in some kolkhozes and sovkhozes, and this means that the digestibility of these rations decreases by 15 percent. This results in a significant overconsumption of feeds and in underachievement of weight gains.

The feeding of young animals requires special care. In many enterprises piglets are raised on mixed feeds earmarked for fattening which are physiologically unsuitable for young animals. This decreases the growth energy of animals, extends the growth period and results in a significant overconsumption of feed, in increased labor expenditures, in a deterioration of production quality, in a slowing down of herd turnover and in a decrease in branch profitability.

We are not utilizing properties of young organisms such as a high intensity of metabolic processes. Every oblast must deal locally with the problem of producing starter mixed feed in its own special interfarm plants and utilize all protein funds at its disposal only for the preparation of mixed feed for young animals. Feeding 100 kilograms of such feed to one piglet up to the age of 4 months will enable us to significantly curtail raising time and to produce strong young animals that will achieve a large weight gain during fattening.

Without solving the problem of producing pre-starter and starter mixed feeds the problem of intensifying hogbreeding will not be solved.

Plan hog breeds have a high genetic potential and are characterized by a high level of fertility, rapid maturity and return on feed. According to data from all-union breed testing, average daily weight gain equals 655-725 grams with a weight of 100 kilograms being achieved in 192-209 days and an expenditure of 3.91-4.16 feed units per kilogram of weight gain. However, this potential is still being used insufficiently.

The foundation of pork production is boars and sows as the basic means of production. Directors and specialists can only be sure that they are fulfilling plans on meat production when the basic resources are highly productive, i.e. animals must correspond to the accepted general union standard and be classified at no less than first class. Underdeveloped sows produce fewer progeny, but the main problem is that the piglets are born in a weakened state, which gives rise to many other problems--death, overconsumption of feed and a prolongation of the duration of raising and fattening.

It is not difficult to create a highly productive maternal herd in hogbreeding. Every sow annually yields 16-18 piglets, of which half are females. Is it possible to raise one female out of eight? Of course it is! But neglect in breeding work results in the fact that many enterprises practically

have no controlled selection and raising of replacement young animals. This results in the forced selection of replacement young from unproductive sows, including from groups being fattened. For this reason, it is not surprising that in a number of enterprises the output of piglets per sow does not exceed 12-13 head annually, whereas in the Lithuanian SSR it is 20, in the Latvian SSR--19, and in the Estonian SSR--18.

The experience of Pobeda Kolkhoz, Dnepropetrovsk Oblast, is an instructive example of the proper organization of reproduction. After the selection of the best animals for herd replacement and for sale as breeding material, the rest of the pigs are castrated.

Many commodity enterprises carry out uncontrolled import of young animals from breeding enterprises and do not create normal feeding and upkeep conditions for them; this is why the influence of breeding animals on improving the productive qualities of the herd remains unsatisfactory.

The time has come for every oblast to build a system of breeding work in which breeding enterprises fully supply replacement animals for breeding farms and groups and in which this network in turn supplies replacement young to industrial reproducers. Breeding enterprises should reproduce pure breeds and industrial reproducers should carry out industrial crossbreeding.

Enterprises bear great losses as a result of unsatisfactory conditions in pigpens.

Bedless upkeep, ferroconcrete designs for facilities, and poor operation of ventilation systems significantly increase atmospheric humidity and bacterial content; as a result during the winter period the temperature of the air and of floors decreases, zootechnical comfort is greatly violated, animals expend more energy to keep warm and thus there is an additional expenditure of feeds for the creation of heat energy.

The death of very many piglets during the winter period occurs because the professional knowledge of farm specialists, who have not assimilated the fine points of the technology for raising piglets, is insufficient. After all it is well-known that of all domestic animals newborn piglets are most sensitive to cold, dampness and drafts.

Instructive is an experiment conducted by the Poltava NII [Scientific Research Institute] of Hogbreeding in Kolkhoz imeni Lenin of Chutovskiy Rayon, Poltava Oblast, in which the chilling of piglets in the course of only 1 hour decreased their growth at the age of 2 months by 1 kilogram, and at the age of 8 months--by 5 kilograms.

Whereas previously piglets were never raised without straw, now under conditions of the new technology they are maintained on a cold floor, and this results in catarrhal diseases and lengthens the fattening period. Such errors and mistakes made by us must be corrected; we must return to the use of bedding made from crushed straw and of electrical heating for suckling pigs and weaned

animals. Under production conditions the most effective devices have been the IKUF-1M (infra-red and ultra-violet rays) as well as the Luch device. When these devices are utilized, 5-6 rubles of electrical energy are expended per sow. These expenditures are reimbursed threefold in a single season.

Many enterprises forget about renovating old facilities in the hope of building new ones. This cannot be tolerated. All old facilities with firm foundations and walls should be renovated. A positive example is the experience of renovating facilities in Sovkhoz imeni Kuybyshev of Poltava Oblast. In this enterprise the modernization of buildings enabled workers to double pork production, to mechanize all labor-intensive processes and to introduce modern technology in old facilities.

It is common knowledge that crowded conditions during the raising of young animals decreases weight gain by 20 percent and increases feed expenditures.

General union norms recommend the creation of groups of 10-12 head per section (but no more than 25). In a number of enterprises these norms are violated, which results in a large degree of sanitary flaws and underachievement of weight gain in sections. Science has proven that in places where there are 100 hogs per section weight gain is always 50 grams less than in sections with 10 heads. This occurs with the same expenditure of feeds.

Frequent and unnecessary regrouping of young hogs from stall to section, from one facility to another, is a violation of technology.

We often speak of progressive technology in special enterprises, but until now the optimal variant for stalls, floor coverings, feed distribution and manure removal has not been worked out. Right now every enterprise is conducting "experiments" with their technological variant, and many suffer great losses as a result of this.

No matter what technological variant is used, we must return to the tested system of summer camp upkeep. This enables us to improve sanitary conditions for the herd and by means of bringing hogs to pasture on perennial leguminous grasses to save 15-20 percent on concentrated feeds without decreasing productivity, to satisfy the needs of animals with regard to vitamins and micro-elements, and most importantly--to significantly increase reproductive qualities of sows and produce healthy progeny.

Specialists of the Poltava Agro-Industrial Association, together with scientists of the Poltava NII of Hogbreeding have worked out measures to significantly increase the intensity of hogbreeding in the oblast's enterprises. The goal that has been set is to increase pork production from 71,000 to 100,000 tons in the next 3 years without increasing the size of the herd. In order to do this, the following is planned:

--to improve work on evaluating sires and to widely use high-quality boars via artificial insemination stations. For this, a special station has been built to evaluate 320 boars annually; the best of these will be distributed among artificial insemination stations with the goal of significantly improving the inherited characteristics of progeny;

--to significantly increase the class grading of sows, having organized the purposeful raising of replacement young with the goal of having animals achieve a weight of 120 kilograms by the age of 9 months;

--to subordinate the system of breeding work to the production of commodity goods and for this purpose, to organize breeding farms in specialized enterprises and to supply commercial sires with a pure-breed herd of sows. In pedigree reproduction pure-breed reproduction is to be used, and in commercial--crossbreeding with boars of meat breeds;

--to organize the production of starter mixed feeds and to procure full-value mixed silage and granules from leguminous crops in the phase of bud formation;

--to utilize camp upkeep of hogs more widely.

Schools of progressive experience have been organized in the eleven best hog-breeding enterprises in the oblast in order to increase the professional level of directors, specialists and operators.

The development of a highly productive maternal herd in every enterprise, the introduction of scientifically-based rations for feeding hogs and improvements in upkeep conditions will facilitate the successful fulfillment of the production program and will increase the profitability of hogbreeding.

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LIVESTOCK

IMPROVING KAZAKH DAIRY HERDS FOR HIGHER MILK YIELD

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 21 Dec 84 p 3

/Article by P. Nasipov, chief of the Department of Selection of Dairy Cattle of the Kazakh SSR Ministry of Agriculture, and M. Kuzembayev, senior zootechnician at the department: "Selection and Growth of Milk Production"

/Text According to the assignment of the Food Program the yield per cow on the republic's farms is to be increased by 500 to 600 kg by 1990 and the annual production of milk is to be brought up to 5.3 or 5.4 million tons during the next 5-year period. This task is difficult, but fully realistic. Along with the strengthening of the feed base a qualitative transformation of the herd on the basis of utilization of highly valuable sires and selection of cows of a desirable type is the most important condition for its fulfillment.

A long-term program for the pure breeding and breed crossing of cattle raised in Kazakhstan with highly productive imported sires and for the development of new types on the basis of large-scale selection has been worked out in the republic. For this the crossing of Alatau cattle with Swiss, Holstein-Friesian and Ayrshire breeds, of Simmenthals with red-and-white Holstein-Friesian and red-and-white German breeds, of the red steppe breed with Angleur and red Danish breeds and of the Auliye-Ata breed with Holstein-Friesian and Holland breeds and the Indian dairy zebu is carried out on farms. As a result of selection plans are made to develop new types, that is, brown dairy and black-and-white cattle, red and red-and-white dairy breeds and dairy hybrids--crosses with zebu. In productivity all of them should be much higher than the initial breeds and suitable for use under conditions of industrial technology.

This work has been done on a mass scale for a number of the last few years and the results are reassuring. On 157 farms in Dzhezkazgan, Karaganda, Kokchetav, Kustanay, North Kazakhstan and Tselinograd oblasts more than 300,000 cows and heifers of the red steppe breed have already been inseminated by sires of Angleur and red Danish breeds and more than 160,000 head of young stock have been obtained. This herd is annually increasing by 50,000 cross-bred heifers. The milk yield from cows obtained from the crossing of the red steppe breed with the Angleur breed on leading pedigree stock farms in North Kazakhstan Oblast totaled 3,125 kg, that is, 238 kg of milk and 0.08 percent of fat more than those of their contemporaries. A total of 3,394 kg of

milk were obtained from crossbreeds with the red Danish breed--447 kg and 0.11 percent of fat more. On the Petropavlovskiy Sovkhoz in the same oblast crossbreeds obtained from the crossing of cows of the red steppe breed with red Danish sires surpass their contemporaries by 889 kg of milk and 0.15 percent of fat.

On 49 farms in Alma-Ata, East Kazakhstan, Dzhambul and Taldy-Kurgan oblasts about 15,000 cows and heifers of the Alatau breed are annually inseminated by Swiss bulls. In the manifestation of the dairy type and udder properties the crossbreeds obtained surpass their contemporaries and on farms in Alma-Ata Oblast their productivity is higher by 230 kg of milk. The Kamenskiy and Aksay pedigree stock farms, whose yield per cow in 1983 totaled 4,983 and 4,379 kg respectively with a fat content of 3.8 percent, are the basic reproducers of "Swissized" cattle in the republic. In the last 10 years the productivity of cows has increased by 540 kg on the Kamenskiy Pedigree Stock Farm and by 764 kg on the Aksay Pedigree Stock Farm. In addition to high-grade feeding the crossing of Alatau cattle with Swiss bulls has contributed to the high milk yields on these farms.

The crossing of Alatau cattle with Ayrshires gives a considerable increase in milk yields and in the fat percentage. The crossbreeds obtained from such crossing on farms in Alma-Ata Oblast give 214 kg of milk and 0.34 percent of the fat content more than their Alatau contemporaries. The Alma-Atinskiy Sovkhoz, as a result of the crossing of Alatau and Ayrshire cows with Jerseys, obtained a herd of 2,000 head with a milk yield of 4,302 kg and 4.23 percent of fat. Crossbreeds from the crossing of Alatau breeds with sires of the Holstein-Friesian breed on the 40 Let Kazakhstana Kolkhoz in Alma-Ata Oblast give 599 kg of milk more than their contemporaries.

Positive results were obtained on farms in Pavlodar Oblast when the herd of Simmenthal cattle was improved through the use of red-and-white, Holstein-Friesian, German red-and-white and Montbeliard breeds. The milk yield of cows obtained from the crossing of Simmenthal cattle with red-and-white Holstein-Friesian breeds on the Peschanskiy Pedigree Stock Farm in Pavlodar Oblast exceeded that of Simmenthals by 835 kg. The Holstein-Friesian breed as an improver of the milk yield, live weight and adaptation to industrial technology also has an effect on the Auliye-Ata breed.

On 15 farms in Chimkent and Dzhambul oblasts work has begun on crossing the Auliye-Ata breed with the Indian dairy zebu of the Sahiwal breed. The experience of foreign and domestic science and practice shows that in hybrid cows, as a result of the heterosis effect, the yield and fat content of milk and the content of protein in milk and meat increase considerably and, what is most important, resistance to various diseases improves. Crossbred animals are not only not capricious as far as feed is concerned, but also assimilate it well.

Thus, extensive work on an improvement in the dairy herd has begun in the republic. There are noticeable advances. The most important thing now is to consolidate them and to increase the crossbred stock and the yield and fat content of milk. This requires two main conditions of a selection-pedigree

and organizational-economic order. Obtaining the necessary number of cross-breeds of every raised breed from highly valuable sires of improved breeds and selecting pedigree cows of a desirable type is the first. High-grade feeding of hybrid cattle for a guaranteed assimilation of the genotype inherited from the improving breed is the second.

It would seem that it is easy to fulfill the first condition. After all, the insemination of cows by highly valuable bulls of improving imported breeds and obtaining the necessary number of crossbreeds presents no difficulties with modern technology. But there is one "but" here. After all, at times it is not easy to obtain sires of the necessary thoroughbredness from highly productive cows. The point is that not all bulls transmit by heredity the high productivity obtained from female ancestors. Out of the 1,582 sires of dairy breeds evaluated according to the quality of offspring in the republic during the last decades only 830 were improvers, 380, neutral and about 300, worseners, that is, one-fifth of the utilized sires greatly lower the already low dairy herd productivity. This is a genetic law and it can be avoided only by detecting such bulls through an evaluation.

All the more, it is inadmissible when highly productive sires are used poorly. For example, on farms in Alma-Ata Oblast last year only 30 percent of the cows and heifers were impregnated with the semen of improvers, on Karaganda Oblast 20 percent, on Kokchetav Oblast 24 percent and on Pavlodar Oblast, 14 percent. And this provided that much more semen preserved by cooling remained at the end of the year than was used. This example indicates that the method of using the bulls of a state pedigree station within the boundaries of an oblast, not in a centralized manner, has already become obsolete. In order to eliminate this shortcoming, a program for large-scale selection has been developed in the republic. At the same time, it is important to take into consideration another circumstance. Specialists must know well the special value that distinguishes bulls of local reproduction. Obviously, sires obtained under completely different ecological conditions are inferior to them. Bulls of republic reproduction are more adapted to environmental conditions. Therefore, the heritability of productivity in them is much higher. Our republic's scientists have already repeatedly demonstrated this in practice. That is why obtaining bulls from local highly productive cows, evaluating them according to the quality of offspring and detecting improvers among them are the most important matters in the qualitative transformation of the dairy herd.

A successful solution of this problem depends on the availability of highly productive cows. According to the republic plan for selection-pedigree work the mothers of future bulls should be cows with a milk yield of over 5,000 kg and a fat content of 4 percent. On the republic's farms at the beginning of the year there were only 250 such cows. This is much less than our need. Auliye-Ata, Simmenthal and red steppe breeds are of special concern. On farms there are now only 10 Auliye-Ata breeds and 23 Simmenthal cows, which give 5,000 kg of milk and more.

What is the way out of this situation?

The only thing that can and should now be done is to organize an increase in the milk yield of cows to record levels. It is good that there is a group of such cows in the republic. For example, on pedigree stock farms and sections last year there were about 4,000 cows with a milk yield ranging from 3,500 to 5,000 kg and a fat content of more than 4 percent. However, they manifested this productivity at a feeding level corresponding to a milk yield of 2,000 or 2,500 kg. There is no doubt that with abundant and high-grade feeding most of them will be highly productive. That is why an improvement in the quality of feeding and an increase in the milk yield now become the most important in the perfection of pedigree work in dairy husbandry. Pedigree stock farms and sovkhozes should primarily engage in this. On every pedigree stock farm, especially on farms of a specific oblast, sufficient capital will be found for an annual increase in the milk yield of 50 to 60 cows. Unfortunately, proper significance is not attached to this most important measure in the localities.

Government decrees on the development of pedigree stock breeding often noted that the production activity of pedigree stock farms was subject to the accomplishment of the main task--raising and sale of highly valuable young pedigree stock and improvement in the animal breeds raised. An evaluation of the production activity of pedigree stock farms should be made according to the attained level of productivity of animals and sale of high-grade young stock. Plant growing on these farms should be developed primarily for a full provision of pedigree animals with all the necessary types of local feed. However, in many cases this is not done. Often our pedigree stock farms in the localities are overburdened with secondary sectors in detriment to pedigree animal husbandry. For example, on the Akanskiy Pedigree Stock Sovkhoz in Kokchetav Oblast there are 40,000 hectares of land (including more than 25,000 hectares of arable land), but the milk yield of cows is maintained within 1,800 to 2,000 kg. During the 16 years of its existence (period of succession of three generations of cows) the pedigree stock sovkhoz did not have a single highly productive cow and did not raise a single highly productive sire for the state pedigree stock station. During the entire period of its existence the Kokchetav State Pedigree Stock Station has been provided with imported bulls alone. What is the hindrance? A similar situation exists on the Pedigree Stock Farm imeni Lenin in Taldy-Kurgan Oblast, the Pobeda Pedigree Stock Kolkhoz in Tyul'kubasskiy Rayon in Chimkent Oblast and others. That is why we have few highly productive cows and it is difficult to carry out pedigree work. It is possible to have their required number, only it is necessary to increase the milk yield.

A high-grade feeding and keeping of the crossbreeds obtained is the second and main condition for consolidating the success and further developing the transformation of the dairy herd and the raising of new breeds. It is well known that hybrids will manifest the high productivity inherited from improving breeds only with good feeding. If we are to obtain 5,000 kg of milk from a cow, we must develop and observe the appropriate feeding rations. Only in this case will they be able to fully manifest their genotype established by the improving breed. This is confirmed by the examples of advanced farms, which have attained high indicators of the yield and fat content of milk from cows obtained as a result of breed crossing, which have been discussed above. There are also opposite examples. On the Kaskelenskiy Sovkhoz in Alma-Ata Oblast with insufficient feeding the milk yield per crossbred

cow obtained from the crossing of the Alatau breed with the Swiss breed was 171 kg lower than that obtained from Alatau breeds, although throughout the oblast the productivity of crossbreeds increased by 500 kg. There are many such examples.

Thus, crossing alone without backing it with an appropriate feed base does not give an increase in milk. Conversely, crossbreeds with unstable heredity, lower resistance, and more sensitivity to the effect of the environment are obtained. Therefore, all farms engaged in breed crossing should first of all see to it that the feed base is strengthened. Otherwise, instead of good, irreparable damage can be done.

The tasks set by the Food Program require improving breeding and pedigree work. The greater its organization the sooner the productivity of the republic's dairy herd will grow.

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INCREASE EFFECTIVENESS OF HOG-RAISING COMPLEXES

Moscow SVINOVODSTVO in Russian No 1, Jan 85 pp 2-5

[Article by V. Tyurin, chief of the division for pork production of the USSR Glavzhivprom: "Improving the Work of Hog-Raising Complexes"]

[Text] At the present time the country has constructed and put into operation 591 hog-raising complexes, including 245 sovkhoz, 190 kolkhoz and 196 interfarm complexes. Last year these enterprises produced 1,335,000 tons and sold the state 1,386,000 tons of pork in live weight.

A significant contribution to increasing the rates of production and sales of pork to the state has been made by the complexes of the Ukrainian SSR, the Belorussian SSR and the Russian Federation.

The raising and fattening of hogs were conducted intensively last year by the complexes of the Lithuanian SSR, the Estonian SSR, the Belorussian SSR and the Latvian SSR, where the average daily weight gain during fattening amounted to 573, 569, 488 and 461 grams, respectively.

In 1983 the complexes achieved the following weight gain of hogs (in percentages of the amount produced by farms of the public sector): In the Moldavian SSR and the Armenian SSR--59, the Uzbek SSR--46, the Azerbaijan SSR--36, and the RSFSR and the Belorussian SSR--35 percent.

The complexes have higher productivity of the livestock and better economic indicators than do the sovkhozes, kolkhozes and interfarm enterprises.

On the complexes the average daily weight gain of the hogs on fattening amounted to 439 grams, or 100 grams more than on the kolkhozes and sovkhozes. The existence of a high level of mechanization on the complexes makes it possible for one worker to tend 193 animals, which is 1.6 times more than on the kolkhozes and sovkhozes. Direct labor expenditures on 1 quintal of weight gain of pork amounted to 7.7 man-hours.

The higher level of productivity of the animals and the greater labor productivity on the complexes provided for relatively lower production cost of the products: the production cost of 1 quintal of weight gain of hogs

amounted to 135 rubles, or 36 percent less than on the kolkhozes and sovkhozes.

Large hog-raising complexes for raising and fattening 54,000 and 108,000 hogs a year are operating intensively and with a high economic return.

Complexes for 108,000 hogs, as compared to the average indicators, produce 147 kilograms per initial head, while for all complexes it is 107 kilograms, and the average daily weight gain of one animal reached 161 grams, and for 1 kilogram of weight gain they spent five feed units of feeds and 3.3 man-hours of labor.

Just because of the introduction of industrial technology, hog-raising complexes as compared to the indicators of the farms of the kolkhozes and sovkhozes, provided in 1983 for an additional gain of live weight of hogs with the same number of animals of 253,000 tons, they saved about 5 million tons of feed units, and they released 180,000 people for other work. From the sale of pork the complexes received 717 million rubles in profit.

In 1983 the average daily weight gain during raising and fattening on the complexes as a whole amounted to 439 grams, or 1 gram more than the 1982 level. In the cross-section of the country the increase in the average daily weight gain of hogs on fattening in the complexes of 1 gram produces an additional yield of 3,345 tons of pork or more than that produced by one complex with 27,000 hogs.

On an average for the accommodations for one hog at the beginning of 1983, on the complexes of the country as a whole they raised 115 kilograms of pork, in the RSFSR--116, in Belorussia--130, in Kirghizia--134, in Latvia--148, in Lithuania--162, in Estonia--166, in Moldavia--106, in the Ukraine--101, and in the Georgian SSR, the Azerbaijan SSR, the Armenian SSR and the Tajik SSR--only 68-98 kilograms of pork.

Efficient utilization of the capacities is the main reserve for increasing the production of pork at the complexes. In the final year of the 11th Five-Year Plan it is necessary to do everything possible to produce up to 150 kilograms of pork per one hog accommodation. This indicator takes into account the existing structure of the enterprises, their planned capacities, the start-up times, the norms for the assimilation of production capacities and the experience of the work of the leading enterprises in the branch.

The task of the animal husbandry industries of the republic and the hog-raising associations is to immediately develop and adopt concrete measures for efficient utilization of capacities at each complex. To do this it is necessary to work constantly on improving the reproduction of the herd and increasing its productivity.

As of the beginning of the year the complexes were filled with animals by 104 percent. On the whole this is a good indicator. It corresponds to the norms for the assimilation of production capacities. But in such republics as the Armenian SSR, the Azerbaijan SSR and the Moldavian SSR, the complexes were filled by only 74 percent, 86 percent and 89 percent, respectively.

The productivity of the hogs is still not high at many complexes. An analysis of their work during 1983 shows that 54 percent of them in the country have an average daily weight gain during fattening of 400 grams and less. There is a considerable difference in the levels of productivity of the hogs on the sovkhoz, kolkhoz and interfarm complexes.

The basic activity of the workers and above all of the managers and specialists employed in industrial hog-raising should be directed toward increasing the productivity of the hogs.

We have good experience in sharply increasing the productivity of the animals and increasing the effectiveness of the branch. Today there are 40 large state complexes in operation for raising and fattening 108,000 hogs a year. They produce an average of 10,300 tons of pork. From one sow they annually obtain 2.2 farrows with 9.1 piglets for each farrow. The average daily weight gain has reached 561 grams. The level of production of pork per one hog accommodation has been increased to 150 kilograms. For one kilogram of weight gain they spend five feed units and 3.3 man-hours. The production cost of 1 quintal of weight gain was 113 rubles.

Such farms as the sovkhoz-combine imeni 60-Letiye Belorussian SSR, the Luzinskiy in Omsk Oblast, the Industrial'nyy in Krasnodar Kray, the Permskiy in Perm Oblast, imeni 50-Letiye SSSR in Gorkiy Oblast produce 13,000-14,000 tons of pork a year in live weight. They obtain 9-9.5 piglets per farrow and 640-691 grams of average daily weight gain. The expenditure of feeds per 1 quintal amounts to 4.2-4.5 feed units, labor--2.19-2.6 man-hours, and the production cost of 1 quintal of weight gain--79-94 rubles.

High indicators in the work for increasing the productivity of the animals are also being achieved by the sovkhoz complexes Uglegorskiy in Donetsk Oblast, imeni 50-Letiye SSSR in Kiev Oblast, Sputnik in Leningrad Oblast, Malinovskiy in Krasnodar Kray, Kommunist in Vologda Oblast, Nekrasovskiy in Khabarov Kray, Novgorodskiy in Novgorod Oblast, Luchesa in Vitebsk Oblast, Trubezhskiy in Kiev Oblast, imeni Lenin in the Udmurt ASSR, Shilutskiy in the Lithuanian SSR, Lukna in the Latvian SSR, and also a number of other enterprises.

In breeding work with hogs the main task is to make them mature earlier, to reduce expenditures of feeds per unit of output and to improve the meat qualities during fattening. The achievement of high indicators in terms of these qualities should be based on the growth and intensification of the breeding base in the country, increased effectiveness of the selection process, and extensive utilization of the effect from cross-breeding.

The introduction of hybridization of hogs on hog-raising farms is so far being carried out in limited quantities, which is related basically to shortcomings in the organization of the breeding base and the unsatisfactory conditions for feeding hogs on many kolkhozes and sovkhozes.

Two selection-hybrid centers have been constructed in Kuybyshev and Vitebsk oblasts, and two more are being constructed--in Dnepropetrovsk and Cherkassy oblasts. Additionally, in the Novyysvet Association in Leningrad Oblast and

the Omskiy Bekon in Omsk Oblast they have created a selection and genetics service which carries out hybridization of hogs on its farms.

Under the methodological leadership of scientific institutions for animal husbandry, we have begun to create domestic interbreed crosses. This work is being conducted in the most organized way in the Belorussian SSR, the Moldavian SSR, in Leningrad and Omsk oblasts, and also in Krasnodar Kray.

The introduction of hybridization of hogs provides for obtaining stably high indicators of productivity. This is shown by the results of the operation of the best complexes in the country: the imeni 60-Letiye BSSR in Minsk Oblast, the Luzinskiy in Omsk Oblast, and the Industrial'nyy in Krasnodar Kray, which had been completely changed over to the program of hybridization. In 1983 the average daily weight gain of hogs during fattening at these complexes reached 658-691 grams with expenditures per 1 kilogram of weight gain being 4.2-4.3 feed units and 2.3-2.6 man-hours of labor. These indicators are 10-12 percent higher than the average figures obtained in the complexes that are in analogous conditions. Therefore at industrial enterprises of the country one should not bypass existing capacities for extensive development of the program of hybridization. First and foremost it is necessary to construct breeding reproduction facilities in each complex for 108,000 and 54,000 head a year. Today there are 66 complexes with these capacities in the country, but the breeding reproduction farms have been constructed at only 47 enterprises. Such farms provide for year-round rhythmic delivery to the complexes of young breeding animals which are better adapted to the conditions of industrial technology, they make it possible to considerably reduce the demand for shipping animals in order to complete the herd, and they reduce to a minimum the danger of importing infectious diseases with the animals that are brought in. The effectiveness of any method of breeding, including industrial crossing and hybridization, is directly dependent on the intensiveness of the selection of the replacement hogs and the sows for actual productivity.

During breeding for every 100 basic sows they usually select no fewer than 200 replacement hogs which are 2-4 months of age. During subsequent raising, from 40-50 percent of the replacement animals are culled because of their health, development, and growth rate, and 15-20 percent of the hogs are eliminated after insemination.

The existing breeding farms make it possible to cull no more than 25 out of every 100 hogs that are taken and no more than 5-8 percent after insemination for productivity.

At the present time the Gipronisel'khov Institute has been given the assignment of adjusting standard plans for complexes for raising and fattening 54,000 and 100,000 head with reproduction breeding farms, where it is intended to have breeding reproduction farms (taking into account 15 percent rejection of the replacement hogs during the period of insemination and the selection of one hog out of three for the replacement). It is necessary to envision the construction of breeding farms or breeding sectors at complexes with capacities of 12,000, 24,000 and 27,000 head a year, with sows comprising no less than 15 percent of the average annual quantity of sows in the commercial herd. This will make it possible to fully provide the complexes and breeding

reproduction farms with their own high-quality replacement animals and to increase the productivity of the animals. Many breeding reproduction farms for a number of years have been sending to the complex 4,000 and more high-class replacement hogs (the complexes imeni 50-Letiye SSSR in Gorkiy Oblast, imeni 60-Letiye BSSR, the Perm, the Krasnogorskiy, the Industrial'nyy and others). The technological and economic indicators are higher on these farms: with one farrow they receive 10 and more piglets, they have 2.1-2.2 farrows per sow, and from 90 to 100 percent of the hogs that are sent to the complex are of the elite or the first class.

But a number of breeding reproduction farms have still not achieved the required selection work with the herd.

While during 1983 of the young animals sent to the breeding and reproduction farms for comprehensive evaluation 78 percent were in the elite and first class, 12.2 percent in the second class, and 9.8 percent--unclassified, at the breeding reproduction farms of the Tikhookeanskiy complex in Maritime Kray, the Vorozhino and Borovoya in Ivanovo, the Krasnodonskiy in Volgograd, the Iskra in Ryazan, the Vladimirskiy in Vladimir and imeni 60-Letiye SSSR in Irkutsk Oblast from 28 to 78 percent of the young animals that were raised were in the second class or unclassified; in the Ukraine the animals raised on the breeding farms of the complexes imeni 60-Letiye Sovetskoy Ukrainy in Dnepropetrovsk and imeni 60-Letiye Velikoy Oktyabr'skoy Sotsialisticheskoy Revolyutsii in Kharkov Oblast the young animals below the first class amounted to 21.5 percent and 17.6 percent, respectively. On the aforementioned breeding and reproduction farms more than 25-30 percent of the basic sows that are used are of the second class and, as a result, the productivity is low, especially the number of young which amount to only from 7.6 to 8.8 piglets per one farrow. With such a maternal herd it is difficult to provide for the planned productivity of the sows in industrial complexes.

Moreover, a number of breeding farms poorly utilize the basic maternal herd. During 1983 from the basic sows they obtained an average of 1.6 farrows, and on the breeding farms of the complexes Turtapskiy in Gorkiy, Gubkinskiy in Belgorod, Krasnopolyanskiy in Amur and several other oblasts they obtained only 1-1.5 farrows per year.

One should especially pay attention to the construction of breeding reproduction farms for complexes in the republics of Central Asia, Transcaucasia and Kazakhstan where the breeding base is very poorly developed. The farms of these republics annually ship in a large quantity of breeding animals from various zones of the country. But this does not produce the proper effect. A considerable number of the animals adapt poorly to local conditions and are culled out for meat.

Experience shows that at complexes where the system of reproduction of the herd is well-organized, using breeding reproduction farms, the business proceeds well on the whole.

The basis for highly productive hog growing is balanced feeding of the animals. At the complexes its significance is increasing even more because of the large concentration of animals.

At the present time regenerated milk, prestarter and starter mixed feeds are provided only for complexes that accommodate 108,000 and 54,000 hogs a year.

State complexes for 12,000 and 24,000 hogs a year and also kolkhoz and interfarm complexes of all sizes are not supplied with starter feeds or regenerated milk. At these enterprises, because of the inadequate growth and development of the animals during the first months of their lives, the average daily weight gains of young animals amount to 250-300 grams and the raising and fattening periods last 320-346 days. Providing complexes of all sizes with starter feeds and regenerated milk will make it possible to obtain an additional 250,000-300,000 tons of weight gain of hogs each year at the same facilities without increasing the volume of expenditure of concentrated feeds. In 1983 the USSR Glavzhivprom introduced two plants--the Markuleshty and Orshanskiy--for producing special mixed feeds with a capacity of 108,000 tons each, and two plants for producing 36,000 tons of regenerated milk each. Two similar mixed feed plants are being constructed for producing special mixed feeds and regenerated milk: the Cherkasskiy and Dertevskiy. The assimilation of the capacities at these plants will make it possible to considerably improve the provision of special mixed feeds and regenerated milk for the complexes.

In order to improve the feeding of the animals, many complexes are organizing the production of vitamin meal and other kinds of feeds that are raised on fields that are irrigated with manure runoff. This is a significant reserve for reducing the shortage of protein and vitamins in the rations for hogs. All necessary measures must be taken in order that by the end of the current five-year plan each complex will organize the required amounts of irrigation of land with manure runoff and production of protein and vitamin feeds for supplementing the nutrition of the animals at the complexes.

In always taking advantage of the work experience of the Belgorod animal husbandry workers who at all large hog-raising enterprises of the oblast have re-equipped the existing feed shops with highly productive equipment which makes it possible to prepare high-quality mixed feeds and, on the basis of this, to replace a significant proportion of the grain forage with green, coarse and juicy feeds which are equally valuable in terms of nutrition content. This positive experience of the Belgorod animal husbandry workers has been approved by the Politburo of the CPSU Central Committee.

It is necessary to improve the provision of the complexes with veterinary goods, medications and disinfectants. Additionally, in the work of the animal husbandry complexes there are essential shortcomings which have a negative effect on increasing the production of products. In 1983 the plan for producing weight gain of hogs at the complexes was fulfilled by only 94 percent.

Some complexes are still slow in assimilating production capacities, they do not show the proper concern for personnel, the allow deviations from technology, and they do not provide the necessary veterinary protection, and hence the low productivity of the livestock, the high expenditures per unit of output and the failure to fulfill the established production plans. There are

very many examples in which, under the same conditions, various complexes obtain various results of production.

Of the 40 large complexes for 108,000 hogs a year which have been in operation for 3 years and more, 21 farms have completely assimilated production capacities and 14 have not managed to assimilate them. The Gubkinskiy complex in Belgorod Oblast, the Lazarevskiy in Tula, the Kremenskiy in Voroshilovgrad, the Volynskiy in Karaganda, the Gallya-Kuduk in Tashkent Oblast and several others are operating below their capacities. At these complexes, as a rule, breeding work is not on a high level, the average daily weight gain of the hogs is 60-100 grams less than planned, and the expenditure of feeds per 1 quintal of weight gain is 0.8-1 feed units more than at the best complexes. Here they receive 0.9-1 piglet less per one farrow. The production cost of weight gain is considerably more. This is a result of the fact that many complexes still do not adequately observe the requirements of technology, are poor at introducing advanced devices for running the branch, and underestimate the significance of selection work.

The main administration for hog raising of the RSFSR Ministry of Agriculture, animal husbandry industries of the republic, and managers and specialists of farms this year must sharply increase the labor and technological discipline at the complexes, which is directed toward steadily increasing pork production.

Increasing the effectiveness of the operation of hog raising complexes is directly dependent on the creation of a stable feed base and increased production of high-quality mixed feeds, especially starter feeds, which fully satisfy the needs of industrial animal husbandry. It is no less important to arrange the output of the latest technological equipment and means of automation, to improve their quality and operational reliability, and to provide the complexes with highly productive hogs and highly productive feed preparation equipment.

In 1985 and the 12th Five-Year Plan it is intended to concentrate capital investments and material and labor resources on solving these important problems in the development of industrial hog raising.

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LIVESTOCK

UZBEK LIVESTOCK SECTOR PROBLEMS EXAMINED

Tashkent SEL'SKOYE KHOZYAYSTVO UZBEKISTANA in Russian No 11, Nov 84 pp 30-31

/Article by A. Sabirov, chief of the Administration for Meat and Dairy Livestock Husbandry of the Ministry of Agriculture for the Uzbek SSR: "For Further Improvements in the Branch"/

/Text/ The 16th Plenum of the Central Committee of the Communist Party of Uzbekistan, which convened in June of this year and which uncovered serious negative phenomena in a number of oblast party organizations, outlined measures for eliminating them, for strengthening party and state discipline, for improving personnel work and for achieving further development in all branches of the republic's economy.

The Plenum devoted a considerable amount of attention to the situation that has developed in livestock husbandry, a very important branch of agriculture. Many farms and agricultural organs, it was pointed out during the Plenum, are not displaying proper concern for increasing the numbers of livestock and in developing the branch they are not orienting themselves based upon their own feed base but rather upon mixed feed provided by the state. Numerous instances involving inefficient livestock husbandry operations at sovkhoses and kolkhoses, non-fulfillment of the plans for the delivery and sale to the state of milk, meat and other livestock products, eyewash, various machinations such as substituting cream butter for milk when crediting deliveries of products to the state, delivery of livestock purchased from the population in the absence of pre-feeding and so forth, have been subjected to fair criticism.

An analysis of the status of livestock husbandry operations in the republic, if only based upon the results for 1983, fully confirms the conclusions drawn during the Plenum concerning the situation in this branch.

Here there is no need for citing specific data on the production of livestock products last year: they were published extensively and in detail in reports by the TsSU /Central Statistical Administration/ for the Uzbek SSR and they underscore the obvious successes and achievements of the many farms which fulfilled their annual plans for delivering livestock husbandry products to the state. Here we will merely note that the numbers of livestock and poultry increased compared to the previous year of 1982 and that the plan for state procurements of livestock husbandry products was over-fulfilled. However, the facts uncovered during the 16th Plenum convincingly testify to the vast unused

reserves which the kolkhozes and sovkhoses have at their disposal for developing animal husbandry and to the great tasks which are confronting both them and the entire branch, in the campaign aimed at implementing the Food Program.

Experience reveals that the task of placing these reserves in operation, raising labor productivity in livestock husbandry and constantly lowering reduction costs, as required by the decisions handed down by the party and by the interests of the state, can be carried out at the present time only on the basis of branch intensification on each farm. And this means that production specialization and concentration, the all-round mechanization of labor-intensive processes, efficient labor organization, progressive technologies and a means for ensuring that the livestock and poultry are adequately supplied with full-value and nutritionally balanced feed must be introduced into livestock husbandry operations to the maximum possible degree. Accumulated experience has already shown that the result of these measures will be improved animal productivity, better quality products, reduced production costs and a high level of economic efficiency for a branch which at the present time is still operating at a loss on many farms. An indispensable condition for such management of the economy -- ensuring that the branch, from top to bottom, is supplied with skilled, honest and loyal personnel.

The advantages of concentration and specialization in livestock husbandry have already been confirmed rather convincingly by the operational results of large specialized complexes created throughout the republic -- marketable milk complexes and also complexes for the production of meat and eggs. At enterprises where the work is carried out on an industrial basis, the production of goods increases while a reduction of 20-30 percent takes place in specific feed expenditures, labor expenditures for the servicing of livestock and poultry are reduced sharply and the facilities and equipment are utilized in a considerably more productive manner than on small farms. Naturally, all of this promotes increased production and a reduction in production costs.

Roughly 172 large complexes for the production of milk, 102 specialized farms for the raising of replacement young stock and five complexes for the fattening of cattle have been created in Uzbekistan. Last year, 144 dairy complexes of the republic's Ministry of Agriculture produced 170,400 tons of milk, or 17.5 percent of the republic's overall milk production. Whereas the average milk production for a kolkhoz or sovkhos was 573.5 tons, at dairy complexes -- 1,184 tons, that is, the amount of milk obtained at a dairy complex exceeds by twofold the indicators for kolkhozes and sovkhoses. Last year the average milk yield per forage cow on farms throughout the republic was 2,535 kilograms and at dairy complexes -- 2,873 kilograms -- or 338 kilograms more. The productivity of cows at leading dairy complexes was even higher. For example, last year the average milk yield per cow at the Kolkhoz imeni Kalinin in Kalininskiy Rayon was 4,511 kilograms and at a complex of the 50 Let Uzbekskoy SSR Kolkhoz in Tashkentskiy Rayon -- 4,172 kilograms.

At all five of the republic's active complexes for the fattening of cattle, the daily weight increases as a rule were considerably higher than those at conventional kolkhoz and sovkhos farms. Last year, they amounted to an average of 419 grams for the republic as a whole, whereas they were twice as high on farms specializing in the production of meat and also at large complexes. For example, the Kattakurgan complex for the raising of cattle, which maintains approximately 25,000 animals and which annually turns over to the state up to

5,700 tons of meat, achieved daily weight increases during fattening of 800-900 grams. In 1983 the average live weight of each animal turned over to the state was 400 kilograms here, with 6.9 feed units and 5 man-hours being expended for the production of 1 quintal of meat. Under these conditions the production cost per quintal of meat did not exceed 95 rubles and 16,540 rubles worth of product was produced per worker.

In order to become thoroughly convinced concerning the advantages of converting livestock husbandry over to an industrial basis, one has merely to compare these indicators against those being achieved by many other farms, including some which by no means can be considered as backward.

For example, here is the average data for sovkhoses of the republic's Ministry of Agriculture for this same year of 1983. The expenditures per quintal of meat amounted to 19.8 feed units and 55.2 man-hours. For such expenditures, the production cost per quintal exceeded 285 rubles.

Given the present scales for the development of livestock husbandry, a further improvement in labor productivity in this branch and a reduction in production costs, in short an improvement in its economic efficiency, is unthinkable unless all of the labor-intensive processes on the farms are mechanized. This is of tremendous importance for attracting young personnel into livestock husbandry, personnel for whom the raising of livestock and poultry on an industrial basis and the modern equipping of dairy farms are opening up opportunities for attractive and creative labor, a statement which cannot be made relative to many present-day kolkhoz and sovkhos farms.

At the present time, according to data supplied by the UzSSR MSKh /Ministry of Agriculture/, the mechanization level for labor-intensive operations in livestock husbandry does not exceed 51.3 percent. This is completely inadequate when one bears in mind the fact that, at a number of farms where a particular type of equipment has been installed, such equipment often lies inactive. Instead, the heavy work for which the equipment was intended is carried out manually just as in the past. Meanwhile, a judgement can be made regarding the results to be achieved from a higher level of mechanization and judicious and correct use of the equipment based upon the experience accumulated at the well-known Chinaz Pedigree Sovkhos-Technical School (Tashkent Oblast). Here a majority of the labor-intensive processes have been mechanized and, as a result, the average milk yield obtained per cow last year was 5,012 kilograms, with each milkmaid obtaining an average of 104 tons of product from each cow assigned to her care.

A high level of labor productivity was also achieved at the sovkhoses Madaniyat (Pakhtaabadskiy Rayon), imeni Lenin (Uchkurganskiy Rayon), imeni Kichanov (Pakhtakorskiy Rayon), Nayman and Gul'bag (Zadarinskiy Rayon) and at a number of other sovkhoses. From 3 to 5 rubles worth of product was produced at these facilities for each working hour of a livestock breeder, whereas the average figure for this indicator at sovkhoses throughout the republic barely exceeded 2 rubles and on many farms it was even less. For example, the average for the Karakalpak ASSR was only 1 ruble, Kashka Darya Oblast -- 1.22 rubles and Navoi Oblast -- 1.26 rubles. We still have some farms on which less than 1 ruble worth of meat is being produced per hour of working time. This includes, for

example, the sovkhoses imeni Musy Dzhallilya in Kegeyliyskiy Rayon (64 kopecks) and imeni Khamid Alimdzhani in Dekhkanabadskiy Rayon (55 kopecks).

A very acute problem confronting the livestock husbandry farms is that of lowering the production costs for meat, milk and other products. As we have already seen, the labor expenditures per unit of product are still very high on many farms: feed is very costly; that is, it does not conform to the modern requirements for the two principal elements, which in this instance constitute a large portion of the production cost. This then is the situation prevailing throughout the republic as a whole and also on individual farms, both backward and leading farms.

Last year the cost for 1 quintal of beef at sovkhoses of the UzSSR MSKh reached an average of 285 rubles and 82 kopecks and 1 quintal of milk -- 34 rubles and 10 kopecks. These production costs are high and they exceed somewhat the same indicators at kolkhoses (258 rubles and 28 rubles and 97 kopecks). Here we are speaking about average indicators, which are considerably higher at a number of sovkhoses. At the already mentioned Sovkhoz imeni Musy Dzhallilya, an average of 645 rubles and 75 kopecks was expended for the production of 1 quintal of beef and for 1 quintal of milk -- 58 rubles and 70 kopecks. At the sovkhoses imeni Tereshkovaya in Srednechirchikskiy Rayon and Samarkand in Bolshevikskiy Rayon the production cost for a quintal of beef exceeded 800 rubles.

At the same time, it is possible to cite many farms where a persistent campaign is being carried out aimed at lowering output production costs and achieving considerable successes. At those sovkhoses mentioned above having low labor expenditures per quintal of meat, for example, the production cost for the meat is several times lower than that at backward farms -- it does not exceed 150-180 rubles. The production cost per quintal of milk is low on such farms -- 20-25 rubles.

As is known, feed accounts for up to 60 percent of the production costs for livestock husbandry products: all other conditions being equal, the cheaper the feed, the lower the production expenditures. Meanwhile, the branch's low profitability is directly associated with the shortcomings in feed procurement operations and with the utilization of the feed. Not all of the sovkhos and kolkhoz leaders are undertaking efficient measures aimed at creating a strong feed base, nor is the necessary attention being given to this important work. As a result, large feed losses were sustained throughout the republic during 1983 owing to the untimely harvesting of natural grasses and forage crops. Such feed is being lost because of insufficient storage facilities, incorrect feeding and without the required preparation and for other reasons. Finally, the norms for the consumption of feed units on the farms are being exceeded by a factor of 2-2.5 and this is bringing about a corresponding increase in the production costs for the meat and milk.

Priority importance is being attached to the quality of the feed being procured and produced and to ensuring that it conforms to the scientifically sound physiological requirements of the animal organisms. Work in this area still leaves a great deal to be desired. Roughly 55-60 percent of all feed procured in the republic is coarse feed, the nutritional value of which does not exceed

50-60 percent of the norm. Constant concern must be displayed for ensuring that the animal rations are varied and that they include the chemical additives recommended by science.

The limited nature of a journal article make it possible for one to discuss only certain aspects of this complicated and diverse branch of livestock husbandry. It should be remembered that this branch is not "seasonal" in nature, but rather it requires the attention of the farm leaders and specialists attached to the agroindustrial complex throughout the entire year. When this is done, each farm and each brigade will successfully solve the task assigned by the 16th Plenum of the Central Committee of the Communist Party of Uzbekistan with regard to increasing the numbers of livestock, expanding and strengthening the feed base and ensuring that the livestock breeders of Uzbekistan make an ever increasing contribution towards solving the Food Program.

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LIVESTOCK

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INCREASED INDUSTRIAL PROCESSING OF CUSTOMER-SUPPLIED CATTLE

Moscow MYASNAYA INDUSTRIYA SSSR in Russian No 11, Nov 84 pp 6-8

[Article by Professor S. S. Shnitser, doctor of economic sciences, All-Union Scientific Research Institute of the Meat Industry: "On Measures to Increase the Industrial Processing of Customer-Supplied Cattle"]

[Text] One of the urgent problems of the meat industry which must be solved during the coming 5-10 years involves increasing the volume of industrial processing of cattle which is not subject to state procurement.

Meat production from customer-supplied raw materials has increased somewhat in recent years, comprising 181,000 tons in 1983 as compared to 111,000 tons in 1980. However, its proportion in total meat output is still extremely insignificant. Data on meat production from customer-supplied raw materials is presented in Table 1.

Table 1

| Ministry of the Meat and Dairy Industry of | Meat output from customer-supplied raw materials, % of total production | Ministry of the Meat and Dairy Industry of | Meat output from customer-supplied raw materials, % of total production |
|--|--|--|--|
| USSR | 2.2 | Lithuanian SSR | 0.8 |
| RSFSR | 3.5 | Moldavian SSR | 1.1 |
| Ukrainian SSR | 1.1 | Latvian SSR | 0.6 |
| Belorussian SSR | 0.7 | Kirghiz SSR | -- |
| Uzbek SSR | 1.1 | Tajik SSR | -- |
| Kazakh SSR | 1.9 | Armenian SSR | -- |
| Georgian SSR | 0.1 | Turkmen SSR | 1.1 |
| Azerbaijan SSR | -- | Estonian SSR | 1.9 |

The highest level of meat production using customer-supplied cattle has been achieved in the oblasts of the RSFSR--Kemerovo (9.7 percent), Rostov (6.8 percent), Sverdlovsk (5.8 percent), Omsk (5.5 percent), Volgograd (4.6 percent) and Krasnodar Kray (4.6 percent).

Cattle that is not subject to state procurement is usually slaughtered on slaughter platforms of kolkhozes and sovkhoses and in the farmyards of private plots, which is accompanied by significant losses of valuable products--blood, endocrine-fermentation raw materials, raw materials for producing feeds, and so forth. According to an approximate evaluation by VNIIMP [All-Union Scientific Research Institute of the Meat Industry], losses from the non-commercial slaughter of cattle in the country equal about 200 million rubles annually. Thus the necessity to further increase the volume of industrial processing of customer-supplied cattle is apparent.

Potential customer-supplied cattle resources can be calculated based on the volume of meat production in the country or on the volume of state cattle procurement.

According to data from USSR TsSU [Central Statistical Administration] in 1983 in the country as a whole 16 million tons of meat in slaughter weight were produced, including subproducts in categories I and II, as well as raw fat; industrial production comprised 10.2 million tons. Based on this data the production of meat and subproducts from category I equalled 13.3 million tons according to our calculations (83.5 percent of slaughter weight of cattle), including 3.1 million tons of non-industrial production. However, we feel that this data is somewhat depressed. In total volume of industrial production of meat and category I subproducts in 1983 USSR Minmyasomolprom [Ministry of the Meat and Dairy Industry] produced 8.4 million tons, USSR Glavptitseprom [Main Administration of the Poultry Industry]--0.9 million tons, Tsentrosoyuz [Central Union of Consumers' Societies]--0.3 million tons and other organizations--0.6 million tons.

In our opinion, meat obtained from the slaughter of cattle in the enterprises of USSR Minmyasomolprom, USSR Glavptitseprom and Tsentrosoyuz, i.e. 9.6 million tons, should be included in industrial meat production. The slaughter of cattle in other organizations not having industrial enterprises should be included in the category of non-industrial slaughter. Thus, according to our calculations, in 1983 non-industrial meat production equalled 3.7 million tons.

Calculations of the volume of meat production from customer-supplied cattle, based on the volume of state livestock procurement, were made on the basis of 1983 data. Total meat production in slaughter weight comprised 16.0 million tons, which when translated into live weight (with a meat output of 63 percent) equals 25.4 million tons. Of this quantity of cattle 17.5 million tons comprised state procurement. Meat expenditures for public nutrition in sovkhoses and according to orders of USSR Mintorg [Ministry of Trade] equalled 1.2 million tons in live weight according to approximate calculations. Consequently, livestock resources not subject to delivery for state procurement equalled 9.1 million tons, from which 5.0 million tons of meat were produced (with an output of 0.545 percent).

USSR Minmyasomolprom produced 0.2 million tons of meat and category I subproducts from raw materials not subject to state procurement; Tsentrosoyuz--0.3 million tons. Thus, non-industrial meat production equalled 4.5 million tons in 1983.

The aforementioned calculations show that meat production resources from customer-supplied raw materials can be increased to 3.7-4.5 million tons per year. Increasing the volume of industrial processing of these resources is related to significant difficulties. According to our calculations, 80 percent of these resources consist of cattle belonging to kolkhoz farmers, workers and employees and only 20 percent--to state enterprises and kolkhozes. The overwhelming portion of this livestock consists of hogs--40 percent, cattle--25 percent and poultry--22 percent.

We should consider it a priority task to obtain customer-supplied livestock for enterprises of USSR Minmyasomolprom within a radius of 30 kilometers.

In early 1983 within the system of USSR Minmyasomolprom there were 845 enterprises that carried out the slaughter of livestock. If the zone for servicing customer-supplied organizations is 3,000 square kilometers (a radius of about 30 kilometers), the total area that can be serviced by all of the enterprises of USSR Minmyasomolprom comprises 2.5 million square kilometers, or about 25 percent of the total land area in the country that is being used by agricultural enterprises and farms. Here in many regions of the country the area that can be serviced by USSR Minmyasomolprom within a radius of 30 kilometers comprises the predominant part of the total area of these regions. This is confirmed by the data presented in Table 2.

Table 2

| Oblast, kray, republic | Area, thousands of km ² | Number of enterprises of USSR Minmyasomolprom | Area of raw materials zones to process customer-supplied cattle, thousands of km ² | Proportion of raw materials zones in total area, % |
|------------------------|------------------------------------|---|---|--|
| Oblasts | | | | |
| Voronezh | 52.4 | 16 | 48.0 | 91.6 |
| Bryansk | 34.9 | 8 | 24.0 | 69.0 |
| Penza | 43.2 | 7 | 21.0 | 48.6 |
| Rostov | 100.8 | 18 | 54.0 | 53.6 |
| Krasnodar Kray | 83.6 | 22 | 66.0 | 79.6 |
| Ukrainian SSR | 603.7 | 123 | 369.0 | 61.1 |
| Belorussian SSR | 207.6 | 29 | 87.0 | 41.9 |

In order to increase the volume of industrial processing of consumer-supplied livestock in the enterprises of USSR Minmyasomolprom it is essential to first of all determine the raw materials zones of every meat combine within a radius of 30 kilometers and to determine potential resources of this raw material for the near future.

Based on the possible delivery volumes for raw materials (centralized according to state procurement and under customer-supply conditions) it is essential to prepare a material-technical base and first and foremost a livestock base for the reception and pre-slaughter upkeep of animals as well as refrigerators for the purpose of achieving thermal processing and short-term storage of customer-supplied meat.

Special attention should be given to questions of supplying enterprises with the means of transportation. Evidently it is necessary to create special trucks adapted for shipping small lots of livestock.

Similar measures should be taken within the system of Tsentrosoyuz. First and foremost it is essential to select enterprises which according to their technical level will be able to achieve the efficient processing of livestock and slaughter products. After considering realistic possibilities enterprises must conclude agreements with kolkhozes, sovkhoses and subsidiary enterprises of state institutions and organizations with regard to processing customer-supplied livestock. They must also widely inform citizens who own livestock about their right to receive and process cattle on a customer-supplied basis.

In order to create favorable conditions for attracting customer-supplied livestock a number of changes should be made in the existing order for receiving and processing customer-supplied livestock. In particular, the circle of obligations of enterprises-processors should be expanded--in addition to slaughtering animals, dressing carcasses and producing meat products they must provide transportation for shipping livestock from farms and ready products to the suppliers of livestock.

All services rendered to the owners of livestock should be carried out free of charge. The cost of services and profits should be replaced by means of the cost of associated products which remain in enterprises (blood, endocrine-fermentation raw materials, commercial fat and other products). Here the cost of leather and rennet raw materials should be reimbursed according to existing procurement prices.

In addition to meat and subproducts it is essential to send customers melted nutritive fat in the quantity calculated according to output norms.

An expansion of the scale of customer-supply operations can be achieved by means of organizing the exchange of livestock for meat as well as meat for meat products according to specific equivalents.

Control over the processing of customer-supplied livestock should become the responsibility of representatives of agriculture (RAPO [Rayon Agro-Industrial Association]) attached to processing enterprises.

A special examination is required by the question of giving associations (enterprises) of USSR Minmyasomolprom the right to procure from enterprises livestock, meat, subproducts and fat obtained from the slaughter of customer-supplied livestock.

At the present time enterprises are not materially interested in attracting customer-supplied livestock. In order to create economic stimulation encouraging an increased volume of industrial processing of customer-supplied livestock, production associations (enterprises) should be allowed to transfer profits from the processing of customer-supplied raw materials into funds of economic stimulation and to use them for the technical reequipping of production as well as for providing bonuses for workers who facilitate an increase in the processing of customer-supplied livestock in the enterprise.

The implementation of these measures will enable us, according to our calculations, to produce up to 1 million tons of meat annually from customer-supplied livestock of USSR Minmyasomolprom and Tsentrosoyuz in the near future.

Further increases in the volume of meat production from this type of raw material can be achieved by means of enlarging the radius for obtaining customer-supplied raw material to 50-60 kilometers. However, the implementation of this is possible only after the meat industry has at its disposal the necessary capacities and fleet of trucks.

Recently, there have been numerous proposals in the press regarding the building of small slaughterhouses for the slaughter and processing of customer-supplied livestock. As calculations show, the building of such slaughterhouses is extremely inefficient. Because of the extremely seasonal nature of raising livestock in private plots belonging to the population, these slaughterhouses will be able to operate no more than 100-200 shifts per year and their annual output of meat will not exceed 1,000 tons. The economic indicators of operations of such slaughterhouses--the use of raw materials resources, output-capital ratios, labor productivity and cost of production--will be significantly lower than the branch average. At the same time the building of small slaughterhouses would require significant capital investments.

We should return to the question of the possibility of building slaughterhouses of this type only after experience is amassed with regard to attracting customer-supplied livestock for processing in existing enterprises of USSR Minmyasomolprom and Tsentrosoyuz after the introduction of the proposed measures.

In order to carry out a practical examination of the possibilities for widely attracting livestock not subject to state procurement for industrial processing, it would be expedient to carry out an experiment in 2-3 associations with the necessary capacities with regard to establishing interrelations with enterprises which own livestock and with organizations that process this livestock on a customer-supply basis.

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LIVESTOCK

MEASURES TO IMPROVE KAZAKH CATTLE BREEDING OPERATIONS

Alma-Ata KAZAKHISTANSKAYA PRAVDA in Russian 4 Jan 85 p 3

[Article by I. Kotenko, deputy chief, Main Administration for Livestock Breeding, KaSSR Ministry of Agriculture: "Animal Husbandry--An Advanced Position: Toward Industrial Technology"; sentence in upper case printed in boldface in original]

[Text] A COUNT OF PEDIGREED LIVESTOCK IS MADE IN THE REPUBLIC

During the years of Soviet power, the scientists of the Republic together with specialists and experts in animal breeding have developed 11 new breeds of agricultural animals and the quality of breeding of all bred livestock has improved constantly. In the vast territory of Kazakhstan, with its multiplicity of natural and economic conditions and agricultural fields of specialization, 12 schematically differentiated breeds of cattle are now found; there are 15 breeds and pedigree groups of sheep, 7 breeds of horse and 5 of swine.

Moreover, a change in the system of animal husbandry management and a transition to industrial technology present new demands for animals and breeds altogether. Recent years have seen the beginning and success of improvement of present breeds, types, and hybrids and the introduction of new, very productive ones, both with respect to animals and to poultry. On the farms of the Republic, the basis for animal breeding has been considerably broadened: 130 new breeding farms and over 200 additional farms, predominantly for animal husbandry, with breeding facilities; the number of the former has increased one and one-half times, while the number of the latter has doubled.

It is natural for the composition and character of the herd to change. This must be taken into account in daily work. In order to carry out purposeful planning for breeding, one must know precisely the pedigree status and qualitative composition of the herd at every farm in different regions of the Republic. From this starting point, a count of pedigreed agricultural animals and poultry is made every five years with regularity.

The regular count of pedigreed livestock will be taken as of January 1, 1985. The count will include all stands of pedigreed cattle, zebus, swine, sheep, goats, horses, camels, rabbits and poultry, without exception at all farms under every ministry and department with use of instructions on method from the USSR Ministry of Agriculture and the USSR Central Statistical Administration and using the instructions in force concerning evaluation of animals. In this connection, a number of recommendations and desiderata should be mentioned.

In order to carry out the breed count at every farm special zootechnical commissions are being established, comprising the scientists and specialists of oblast and rayon agricultural administrations, state breeding stations, kolkhozes, sovkhozes and other agricultural enterprises.

Preparatory work ought to precede the breed count. It is the responsibility of the animal technicians of the farms and the animal-husbandry brigade leaders to make the documentation of the zootechnical and breeding records precise, as it attests to the pedigree and breeding value of the livestock in question, and update the enumeration of the animals as necessary. It is obligatory to evaluate sires of all species of livestock. Animals on the farm for fattening and pasturing are not defined as to breed, nor are castrates with the exception of castrated rams belonging to thin-wooled and semi-thin-wooled breeds of sheep. Specialists ought to approach with special care the examination and breeding classification of sires and get an especially accurate count of purebred animals. At the same time, the sires and dams registered in the State Registry of Pedigreed Animals are counted in this regard. Farm managers and specialists prepare accounts on the presence of pedigreed animals as of January 1, 1985 and present them to the rayispolkom's agricultural administrations.

It is the responsibility of the rayispolkom's administration of agriculture to organize the conduct of the count of pedigreed livestock, rabbits and poultry, supply questionnaires and data sheets for the count as well as instructions on method, to check the figures submitted by farms regardless what department they are subordinate to and to submit the counts promptly and in proper form.

Rayon administrations of agriculture together with rayon inspectors and chiefs of the informational and computation stations for government statistics determine that all farms and livestock have been fully accounted for.

Subsequently, the oblast administrations and the oblast agricultural administrations' statistical administrations will verify and process the data and the results of the count of pedigreed animals and poultry. The specialists at the Ministry of Agriculture and the Central Statistical Administration of the KaSSR will carry out this task at the republic level. In

addition, however, all ministries and departments whose jurisdiction extends to farms where livestock, rabbits and poultry are raised ought to play a very active part in organizing the count.

The determination of numbers of pedigreed livestock is not an end in itself. It forms a basis on which measures should be formulated and realized for the further improvement of the productive characteristics of agricultural animals and their high level of breeding. For this reason, expertise should be devoted to the count and all should proceed with a feeling of deep accountability.

9582

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LIVESTOCK

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MEASURES TO PREVENT INFECTIOUS DISEASE IN POULTRY DISCUSSED

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 11, Nov 84 pp 40-41

[Article by I. Skutar', affiliate director of the Moldavian NII [Scientific-Research Institute] on Livestock Raising and Veterinary Science for Poultry-Raising, doctor of veterinary sciences: "All of This Is Not Trifles/ What Is Hindering Improvements in the Preservation and Productivity of Poultry?"]

[Text] The intensification and specialization of poultry raising which has been carried out since 1964 has enabled us to sharply increase the quality of production and the power available per enterprise, to ease the labor of poultry men-operators, to increase the productivity and improve the preservation of poultry and to decrease feed expenditures per unit of production. As a result, the branch has become highly profitable.

However, the concentration of a large flock of poultry in a limited area, the upkeep of poultry in cages without access to exercise, the intensive exchange of genetic material, one-sided breeding for high productivity indicators without a consideration of the herd's resistance, errors in feeding and upkeep and other factors often are the contributing factors to the susceptibility of poultry to noncontagious and infectious diseases.

Although there are a number of poultry-raising enterprises (Dubossarskiy GPPZ [State Poultry Breeding Plant], Novo-Brynzenskiy and Rybnitskiy PPS [Poultry Breeding Sovkhoz] and Buzhorskaya and Florenskaya GPF [State Poultry Factory]), with a high level of productivity and preservation of the population, in the republic as a whole these indicators still remain low.

In the republic's poultry-raising enterprises indicators on the preservation and productivity of poultry are extremely varied despite the fact that the same type of poultry is bred everywhere and that the same quality feed and same types of equipment and facilities are used everywhere. The greatest losses and lowest productivity from year to year characterize Vulkaneshtskaya, Volontirovskaya, Voznesenskaya, Tyrnovskaya and Valya-Perzhskaya state poultry factories and the Timushskiy, Brichanskiy, Drokiyevskiy and Kriulyanskiy poultry breeding sovkhozes. Due to poor production organization, all parameters of poultry upkeep are violated and veterinary-sanitation requirements are not adhered to. The achievements of science and progressive practice are introduced extremely slowly. Mismanagement exists.

In order to successfully protect the population from infectious disease and to avoid noncontagious illnesses it is necessary to adhere to a complex of economic, technological and veterinary-sanitation requirements. Specialists and directors of enterprises must constantly be aware of the epizootic situation in the settlements surrounding them. The functioning of the closed enterprise must be achieved in deed and not just in word. Here special attention must be given to washing and disinfecting returning packaging and transport vehicles.

Every worker and employee of the enterprise entering the production zone must have two sets of special clothing that are clean and disinfected.

In order to avoid the accumulation of pathogenic microflora in coops it is very important to observe technological breaks, careful cleaning, washing, sanitation and "resting" of facilities while adhering to the principle, "all empty, all occupied." Sanitation operations for air and equipment should be carried out in the presence of poultry using aerosol sprays of effective chemical preparations. They must be used knowledgeably, with adherence to the proper dose and with a consideration of the physiological condition of the population.

Most often, chicks become infected with harmful microflora during the first hours of life--in the incubation room, especially in the hatching room. Only a low level of sanitation can explain the fact that the poultry imported into the republic, usually free from pathogenic infections, becomes undesirable already in the second or third generation due to a number of infectious diseases.

In recent years in our country it has been decisively recognized that it is essential to raise poultry of different ages on territorially-isolated platforms. Without fulfilling this condition we cannot expect successful management of the branch. An increase in the density norm only brings harm--chickens are denied the opportunity to move freely, they cannot eat and drink water normally and they are constantly subject to stress, which results in liver damage and yellow peritonitis with premature culling or death of the population.

Many enterprises acquire expensive vitamin-enriched preparations as well as protein supplements to enrich mixed feed, but they do not always store them in suitable (dark, dry, cool) facilities, which results in their rapid inactivation and deterioration. Premixes are not always prepared with quality, resulting in the fact that some poultry rations are toxic in dosage whereas others contain no supplements at all. Consequently, the great resources expended do not bring about the expected effects and sometimes actually cause harm. Storage of fats in the sun or in warm areas for extended periods without antioxidants encourages souring. Feeding such fats results in belomyshechnoy [white muscle] disease, which may lead to the mass death of young and to a decrease in the productivity of adult poultry. To prevent this poultry disease, antioxidants, vitamin E and sodium selenite are included in poultry feed.

In connection with the high density of settlements and frequent adversities there related to severe infectious diseases, the enterprises' poultry is constantly under the threat of spread of these diseases. Planned vaccinations are carried out to achieve resistance in poultry. But here it is extremely important to store vaccines at a temperature no higher than 6 degrees Centigrade and to adhere to precise doses, vaccination techniques and so forth. Unfortunately, in a number of stations for preventing animal diseases vaccine preparations are still not stored in refrigerated cabinets, but in cellars where the temperature is often 10 degrees Centigrade and higher.

These are not trifles. Instituting strict technological discipline and implementing competent veterinary services in enterprises will enable us to produce thousands of tons of meat and millions of eggs without additional capital investments.

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8228

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LIVESTOCK

BRIEFS

TADZHIK LEADER, LIVESTOCK CONFERENCE--A seminar-conference on issues of implementing financial autonomy and collective contracting in livestock production, and strengthening organizational and political work among livestock farmers took place in Dushanbe. Comrade Nabiyeu, Tadzhik Communist Party Central Committee first secretary, and other speakers noted that collective contracting in livestock production is becoming a reliable guarantee of rational management. However, its potential is not being utilized to the fullest possible extent. Ways of resolving problems connected with the further intensification of livestock production were outlined. It was decided to transfer the majority of teams and sections in this field onto financial autonomy and collective contracting in the current year and to achieve significant increases on the basis of that in the production of meat, milk, eggs, and other animal farming production. [Text] [Moscow Domestic Service in Russian 1400 GMT 2 Mar 85 LD]

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REGIONAL DEVELOPMENT

INTENSIFICATION OF AGRICULTURE IN ARMENIA DISCUSSED

Yerevan KOMMUNIST in Russian 12 Jan 85 p 2

[Article by G. Gushchyan, head of the Department of the ArmNII [Armenian Scientific Research Institute] of Economics and Organization of Agriculture, candidate in economic sciences: "The Effect of Intensification"]

[Text] The wide-scale measures, large capital investments and tremendous work of the agricultural workers and all the partners of the agroindustrial complex to intensify agriculture, which have been adopted by the party and the government, have ensured the growth of economic efficiency for agriculture in the Armenian SSR. For example, in the republic on the average during the years of the present five-year plan, as compared with 1961-1965, the value of the gross agricultural product (in comparable prices) more than doubled, and the population increased 1.5 fold. To sum up--the output of gross product per capita increased by 32.8 percent, which attests to the outstripping growth of food-stuff production.

During this time the average yearly state purchases of grain doubled, of potatoes--increased 4.2-fold, of vegetables--2.1-fold, of fruit--2.7-fold, of meat--2.4-fold, of eggs--4.3-fold, of sugar beets, by 41.3 percent, of grapes--by 62.6 percent, of milk--by 87.5 percent and of wool--by 21.9 percent. The average yearly cost of the fixed production capital for agricultural purposes at kolkhozes and sovkhoses in the republic per 100 hectares of agricultural land during the same period increased 4.7-fold, and the yield of the gross agricultural product increased 2.7-fold. These data attest to the considerable rise in the level of intensification of the capital-equipment ratio and the increase in economic efficiency of agriculture.

At the same time, the capital-output ratio, that is, the output of the gross product per ruble of fixed capital for production, was reduced from 70 to 41 kopecks, or by 41.4 percent. This is because of insufficient use of capital and the continued procedure of complete supply of funds. The reduction in the capital-output ratio, however, cannot be an impediment to additional investment of funds for as can be seen, in this case too, the goods production volume is noticeably increasing. Labor productivity is rising and the production cost is decreasing.

As for profitability, on the whole it remains considerably below the norm, and during the years of the present five-year plan is 12.3 percent. Meanwhile, its growth is extremely necessary to ensure expanded reproduction.

A very important condition for intensification of agriculture is strengthening its material-technical base. At the kolkhozes and sovkhozes, during the years of the 11th Five-Year Plan, as compared with 1961-1965, power capacities, calculated per farm, increased 5-fold and per 100 hectares of farming lands-- 4.5-fold. The amount of organic-mineral fertilizers applied to the soil increased 2.1-fold as well.

Study shows that such large investments in strengthening the material-technical base are fully justified economically, and they should be developed further. On farms with the cost of technical assets growing from 22,000 to 65,000 rubles, estimated per 100 hectares of actively worked lands, the production of the gross product for agriculture increased. At the same time, 270 rubles of net income was obtained per worker and the profitability rose from -0.2 to +12 percent.

In the end, it is becoming obvious that with a rise in the level of intensification, the economic effectiveness of agricultural management will consequently grow as well. For example, with the growth of fixed production capital and current production outlays (without amortization) from 43,000 to 453,000 rubles, estimated per 100 hectares of farming land, the gross agricultural product increased from 13,300 to 130,700 rubles, the profits accordingly--from 1,400 to 23,400 rubles, and the production profitability-- from 6.8 to 17 percent. At the same time, the gross output per ruble of fixed capital and current outlays rose by 64.7 percent. These mass correlating data indisputably prove the tremendous advantage of intensification in the matter of a growth of agricultural efficiency under conditions of our republic's shortage of arable land.

At the same time, there are large unutilized reserves and potentials. In the future, intensification will develop through systematic increase in fixed and working capital for production and ensurance of their assiduous, highly efficient utilization. Here an improvement in planning capital investments calls for distributing them to the farms in consideration of the volume and growth rates of their production and complete supply with funds up to the normative limit.

Use of the system developed to direct the republic's agriculture during the current five-year plan will contribute to a successful solution to the problem of intensification. At the farms and regions where these systems are used persistently, the productivity of the fields and farms increases noticeably and the production becomes more stable. Development of systems for carrying out mountain agriculture and livestock breeding, particularly in the irrigated zones, must be accelerated for the future.

More stepped up but realistically-fulfillable plans must be adopted to intensify the agricultural sectors and ensure great end results, above all on the irrigated lands. Unfortunately, adopting plans that are poor with respect to

what has already been achieved in the preceding years has become almost the norm at some farms, especially in the Ararat Valley, and it is impossible to be reconciled with it.

Although large funds are being invested on reclamation and opening up new lands, valuable irrigated lands and sprinkling-water supply systems, as well as organic-mineral fertilizers and means of mechanization, are often used by no means sufficiently.

The limited land resources, given the high population density in the republic, dictate only one path of development for agriculture--this is the path of intensifying it and obtaining the maximum amount of output from a unit of land. There is a possibility, for example, on irrigated lands, of having intermediate sowing and obtaining two harvests a year on an area of 22,000 hectares, as opposed to the existing 3,000-4,000.

Accelerating the rates of high-quality development of saline, damp and stony lands in the Ararat Valley, amounting to about 90,000 hectares, is a major reserve. Along with this, it is economically expedient to rebuild the obsolete sprinkling systems, using more efficient methods, including night-time watering, overhead and subsoil irrigation. Full utilization of the lands in the Ashtaraksiy, Abovyanskiy, Talinskiy and other rayons makes it possible to obtain many additional products.

The technical-economic conditions for agricultural development are now such that almost any sector of it can be profitable, even in the mountain regions. Consequently, tightening up the farms that are lagging behind and eliminating their unprofitableness is a real need. In this respect, positive work is being done in Noyemberyanskiy, Aragatsskiy, Aparanskiy, Razdanskiy, Gorisskiy and other rayons. For example, due to the organizational-economic measures in 1983 at farms in Aparanskiy Rayon, the income has noticeably risen, production has increased, and the year ended with a profit amounting to 2.2 million rubles. Sovkhozes in Noyemberyanskiy Rayon obtained over 6.7 million rubles of profit, having ensured production profitability of 33.4 percent.

Further development and intensification of agriculture in the suburban regions of Yerevan, Leninakan, Kirovakan, etc., are acquiring particular significance. The most complex and largest is the suburban area of Yerevan, which should be expanded by virtue of all the regions and farms of the Ararat Valley. The fact is that in Yerevan's suburban area, there has been formation and rapid development of its companions--the cities of Echmiadzin, Artashat, Abovyan, Oktemberyan, Masis, Ararat, Ashtarak and other industrial centers. Their presence makes great demands for an increase in foodstuffs and steady supply for the population.

The situation is intensified by the formation of a new area to supply with products. These are the cities of Charentsavan, Razdan, Sevan and Gagarin,

as well as the large resort-health center (Sevan-Tsakhkadzor-Ankavan) located here. Therefore it is expedient that the planning agricultural organs work out a system for long-range development and intensification of the farming with the enterprises that process raw materials in the suburban areas of Yerevan, Lenikakan, Kirovakan, Sevan-Razdan center and others.

An important direction in intensifying agriculture is complete utilization of comparatively less capital-intensive factors, in particular, biological and advanced technological, in the development of plant growing and livestock breeding. Related to them are the development of selection and seed growing for crops, pedigree breeding business, animal reproduction in early periods, obtaining two crops a year on irrigated lands, the introduction of a collective contract and cost accounting, advanced methods of producing, processing and storing products and improvement in their quality, strengthening the fodder base and correct combination of general and personal interests.

Agriculture was and remains an extremely important sector of social production. Its further intensification is the duty of rural workers and our main duty.

12151

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ACRO-ECONOMICS AND ORGANIZATION

EFFECTIVE REGIONAL RESOURCE USE IN APK DEVELOPMENT

Moscow EKONOMIKA I MATEMATICHESKIYE METODY in Russian No 6, Nov-Dec 84
pp 965-972

[Article by V. P. Mozhin, Moscow: "Territorial Structure of the Agro-Industrial Complex"]

[Text] The territorial aspect plays an exclusively important role in the development of the agro-industrial complex (APK). The effectiveness of agriculture--the central link of the APK--is determined to a significant degree by natural-climatic conditions, which differ considerably by region of the country. At the same time, the end products of the APK are used everywhere and the production volume of many food products (grain, confectionery, dairy and so forth) must be planned in every region of a certain size with a consideration of its population regardless of the possibilities for obtaining basic agricultural raw materials here.

An analysis of the processes of agricultural distribution over the last 10-15 years attests to several changes in the territorial structure of the branch. A characteristic tendency is somewhat of a move in production (gross production) to the southern part of the country. Agriculture developed most rapidly in the republics of Central Asia and the Transcaucasus. Although their share in total capital investments into agriculture for production purposes did not increase during the 10th Five-Year Plan as compared to the eighth, their proportion in the total volume of agricultural production increased from 10.5 percent during the Ninth Five-Year Plan to 12.2 percent during the 10th (calculated according to (1, p 206)). In addition to a better bioclimatic potential, a factor that played a role in production growth was that of a good supply of labor resources in agricultural enterprises. The Ukraine, Baltic states and Belorussia preserved their share in total union agricultural production output.

Lags in the growth pace of agriculture in the RSFSR have been discovered. Whereas during the Eighth Five-Year Plan its share in branch production reached about 50 percent (2, p 224), during the 10th it dropped to 46.1 percent (1, p 206). It is evident that a slowdown in growth pace had a noticeable effect on the development of the branch as a whole. Development was particularly slow in the Central, Central Chernozem, Volga-Vyatsk regions and in Western and Eastern Siberia. The RSFSR's lag behind average union

indicators occurred under circumstances in which the republic's share of resources such as land, head of cattle and fixed production capital did not change and its share of drained and irrigated lands and capital investments for production even increased (for capital investments for production--from 48.2 percent during the Eighth Five-Year Plan to 51.7 percent during the 10th (1, p 341; 3, p 197)). The factors that had a negative effect on the growth of agricultural production in the republic include a relatively low soil fertility in many regions and comparatively smaller supplies of labor and some material resources. In the course of a long period of time, RSFSR agriculture received noticeably less fertilizer per hectare of arable land than the national average, although this gap is being narrowed (in 1975 the supply of mineral fertilizers to the RSFSR per hectare of arable land equalled 77.3 percent of the average level in the country; in 1980--80.4 percent (1, p 238). All of this had an effect primarily on the development of farming, the proportion of which in total national production decreased from 46.2 percent during the Eighth Five-Year Plan (2, p 225) to 40.1 percent during the 10th (1, p 206).

There was a noticeable drop in labor supplies for the RSFSR's agrarian sector due to the sharp drop in birth rate and increased migration of the rural population. In 1980, one agricultural worker in the RSFSR worked double the arable land than the average for other republics (calculated according to (1, pp 223, 260, 268 and 274)). This type of double load is not compensated for by the difference in capital-labor ratio of agricultural labor, which was higher by a factor of about 1.4 in the RSFSR than the average for the rest of the republics (see (1, pp 213-215, 260, 268 and 274)).

From 1970 to 1981 the RSFSR's rural population decreased by over 8 million people, i.e. by almost 17 percent; the rural population in total population in the republic has decreased to 29 percent (3, p 5). One of the consequences of this process is a drop in production from private plots. Calculations show that the shortage of labor resources will also be a fairly acute problem for the RSFSR in the future as well in terms of agriculture.

Changes have occurred in the distribution of individual agricultural crops. In the grain industry the largest increase in sowing area during the 10th Five-Year Plan as compared to the ninth took place in regions that did not specialize in raising this crop. In the country as a whole the increase in grain crops was 3.8 percent, in the BSSR--11.5 percent, in Lithuania--14.0 percent, in Latvia--14.4 percent and in Estonia--16.5 percent (calculated according to (1, p 229)). Consequently, a tendency to expand the geography of grain production was noted.

The picture of distribution of potato crops is similar. During the last decade we have observed a significant drop in the area in this crop in its zones of primary cultivation--total curtailment in 1976-1980 as compared to 1966-1970 comprised 1,188,000 hectares, including 619,000 hectares in the RSFSR and 168,000 hectares in the BSSR (1, p 233; 2, p 253). The greatest drop was in the private sector. At the same time, there has been somewhat of a growth in the area in potatoes in the republics of Central Asia and the Kazakh SSR.

million tons of grain and, significantly, to make the structure of grains correspond to the needs of end production in the APK--by increasing the proportion of grain forage crops, to increase the output of feed units by 270 kilograms, of digestible protein by 10 kilograms and of lysine by 1 kilogram. This will create a firm foundation for solving the feed problem in livestock raising.

From these calculations it follows that within the structure of forage grain, no less than 18 percent should consist of corn grain, in terms of feed units. Based on the goals of the USSR Food Program related to the growth of livestock production the general need for corn grain, which exceeds current production considerably, is determined. In order to achieve such a weighty increase it will be necessary to create a specialized zone for cultivating corn on an industrial basis. The "corn belt" must encompass Moldavia, the southern part of the Ukraine, the Northern Caucasus, the irrigated lands of the Transvolga and parts of Central Asia and South Kazakhstan. In connection with this, a significant portion of irrigated lands used for other grain crops must be put in corn. Increasing the sowing of corn for grain in the aforementioned regions on irrigated lands with an optimization of the irrigation regimen, the application of complete doses of mineral fertilizers and the use of modern technology will enable us to considerably increase the stability of the feed base and the growth of livestock production.

As for food grain, at the present time the main goal is to improve its quality, which will allow us to better satisfy the needs of the population for grain products, pasta and candy products and groats. At the same time, there would be a savings in grain since one weight unit of grain of durum wheat will yield 25 percent more end product--bread--than the same quantity of flour made from low-quality grain.

Our country has the necessary soil and climatic conditions for producing durum wheat grain in the necessary volume. This includes the rayons of the Transvolga, the southern Urals, Western Siberia and North Kazakhstan, which must specialize in the production of high-quality food grain.

It would be expedient to concentrate commercial production of potatoes in the Non-Chernozem Zone of the RSFSR, in the northern Ukraine, Belorussia, the upper Transvolga and in a number of regions of the Urals and Siberia, and in the Baltic States and Eastern Siberia to raise potatoes in volumes that would meet most of the internal demands of the region.

Sugar beets should be concentrated in the Ukraine, Moldavia and the Central Chernozem, Northern Caucasus and Transvolga regions and at the same time their production should be stopped or significantly curtailed in the republics of the Transcaucasus, Belorussia, Western Siberia and other regions of the RSFSR where their productivity is lower and costs are significantly higher.

The republics of Central Asia, the Kazakh SSR and Azerbaijan SSR will remain the cotton-sowing regions in the country. Most long-fiber flax should be concentrated in three regions in the future--the Central, the Ukraine and the Belorussian SSR; sunflowers--in the Ukraine, North Caucasus, Transvolga and Central Chernozem regions as well as the Moldavian SSR.

The share of republics in Central Asia, the Transcaucasus and Moldavia producing vegetables has grown significantly. During the 10th Five-Year Plan as compared to the ninth it increased from 17 to 23 percent and continues to increase in the current five-year plan (1, p 234). This type of change in the distribution of vegetable crops appears to be completely effective.

At the same time, a decrease in potato production in its main production regions is hardly effective since here production expenditures are lower by a factor of 1.5-2 than in regions that are not specialized for potato production. Expanding the territory in which grains are cultivated is also not always justified. This is usually related to an increase in grain procurement with the goal of developing the feed base. However, as calculations show, a growth in the proportion of concentrates within the structure of the feed balance is effective only within a certain framework. No less important is the use of pasture feeds and hay, especially from natural haylands.

In our opinion, the mobilization of all resources in every republic, kray and oblast with the purpose of supplying the population with food does not exclude the necessity for continued specialization of agricultural production on the basis of organizing its distribution more effectively with a consideration of natural-economic factors.

It is apparent that in the near future it will be necessary to utilize all agricultural lands used in turnover, both the best and the relatively worse, which is based on society's need for agricultural products. In connection with this it is important to determine the regions that are most effective for the production of particular agricultural products.

The correct methodological approach consists of solving this problem with the help of a mutual comparison of all branches of agriculture in all possible regions where these branches can be located. In this case every branch and every region is examined within a single system. This type of approach can be implemented based on the optimization of the economic-mathematical model.

Calculations that have been made show that in the future there will be a continuation of the tendency to increase the proportion of southern regions in agricultural production output. This is related not only to favorable natural conditions but also to a considerable degree to the fact that the indicated regions have at their disposal the necessary labor potential which does not exist in the northern sections of the country.

Noticeable changes in the distribution of grain crops can be facilitated by changes in their production structure. At the present time, this structure does not sufficiently consider the end requirements of APK production. The volume of food grain exceeds demand and some of it is used for forage purposes. At the same time, there is a shortage of grain from forage crops, especially corn and pulse crops. All of this results in the not totally efficient use of this important crop.

Economic-mathematical calculations confirm that with the same sowing area just by improving distribution and structure it is possible to produce an additional

In the production of animal products, zones of dairy specialization obtaining butter and cheese and suburban zones of dairy farming as well as of beef farming must be created. The dairy direction is characteristic of livestock raising in the Baltic States, oblasts of the RSFSR's Non-Chernozem Zone, Belorussia, the Ukrainian Poles'ye and Western Siberia; the beef directive should be strengthened in the Transvolga, Kazakhstan and several regions of Siberia.

Improving the territorial structure of agriculture cannot be examined apart from the problems of allocating other branches of the APK, especially of those that process agricultural raw materials. A characteristic tendency in their development is a growth in production concentration and a development of larger and larger enterprises, which improves branch economic indicators and will enable us to utilize modern technology. Nevertheless, in addition to this there are factors that act in the opposite direction. With an increase in concentration levels there is an increase in the radius of shipments of raw materials and consequently of transportation expenditures; there is an increase in losses of raw materials and in non-production expenditures. For this reason, the optimal size of enterprises and their distribution must be determined with a consideration of all factors and with an orientation not toward intermediate indicators but toward high end results.

Meanwhile, these requirements are not kept in mind in a number of cases. Sometimes the concentration of processing is higher than in the production of agricultural raw materials and does not take into account its objective possibilities, regional conditions for managing agricultural production and social factors. At the same time, shortcomings in the distribution and specialization of agriculture and the fact that zones of specialized production of individual products are still being developed slowly are having an effect. As a result of such uncoordinated development there are regional discrepancies between the capacities of the processing industry and the availability of agricultural raw materials.

In the meat industry it is felt that efficient territorial organization must exclude the shipment of cattle in distances over 150 kilometers. At the present time most shipments fit into these parameters. However, disproportions in allocating raw-materials resources and the material-technical base for processing them still do exist--a significant number of head of cattle are shipped great distances. Here it should be noted that lags in fulfilling plans on increasing livestock production do not permit people to draw the proper conclusions on the coordination of capacities of the meat-processing industry and the needs of the raw-materials base, especially in a regional cross-section. Curtailing inter-regional shipments of raw materials during some years was the result of a shortage of raw materials and not of improvements in the distribution of enterprises.

There is no reliable data on meat losses and deterioration of quality resulting from long-distance shipments and long-term detention of animals in enterprises of the meat-processing industry as well as lack of adherence to the regimen for maintaining cattle. However, such losses undoubtedly do exist.

It seems that on the whole, for the efficient distribution and concentration of production in the meat industry it is essential to more correctly coordinate

the network of relatively small enterprises that slaughter livestock and well-equipped meat combines, which achieve a thorough processing of raw material and the production of a wide assortment of products.

The total number of enterprises in the dairy industry has decreased sharply during the last 15 years. The average capacity of one milk-processing enterprise has increased considerably. Correspondingly, there was an increase in the average radius of milk shipments from enterprises to processing points; there was an increase in shipment expenditures and in the delivery period, which results in the deterioration of milk quality and its loss.

The problem of improving distribution is most acute in the production of whole-milk products. There is a shortage of capacities to produce whole-milk products in the republics of Central Asia, Kazakhstan and in the Volga^a-Vyatsk, Ural and Eastern Siberian regions. Enterprises producing whole-milk products operate with great intensity; raw material resources are utilized ineffectively.

The problem of comprehensive use of raw materials is related to improving the distribution of milk processing and its concentration. At the present time, no less than 700,000 tons of milk protein (4, p 7) is contained in the defatted milk that is returned to kolkhozes and sovkhoses. Some of it could be processed for food purposes in factories. At the same time, the building of small inter-farm enterprises directly in kolkhozes and sovkhoses for processing returned defatted milk would be expedient.

In the sugar industry as a whole the distribution and availability of capacities corresponds to the volume of procured sugar beets; processing time has decreased, but to a large extent this is related to the non-fulfillment of plans to produce raw materials. During individual productive years the duration of juice production in the Ukraine and Moldavia exceeded the optimal period, which equals 100-105 days.

At the present time, due to the low concentration level of sugar beets 45 percent of them are shipped considerable distances. This results in the creation of peripheral beet-procurement points for storing beets, in additional transfers and in increased losses of mass and sugar content. In the Ukrainian SSR, for example, as a result of intra-republic transport of sugar beets average annual sugar losses comprised 62,500 tons during the Eighth Five-Year Plan, 61,000 tons in the ninth and over 100,000 tons in the 10th (5, p 5).

The shortage of capacities can be seen in the Transvolga region and in Kazakhstan. At the same time, the potential capacities of plants in the Western Siberian and Volga-Vyatsk regions exceed the possibilities of raw-materials zones.

In the oil and fat industry the lack of coordination in the distribution of oil-extracting enterprises and raw oil resources is characteristic now for the zone of Central Asia and Kazakhstan, from which hundreds of thousands of cotton seeds are exported for processing in oil plants located in the RSFSR, Moldavia and the republics of the Transcaucasus (6, p 34).

It is expedient to bring processing enterprises and regions producing raw materials closer together and to substantially decrease the average distance of shipments.

In connection with the rapid growth of rapeseed production it is essential to foresee industrial processing of rape instead of its direct feeding to cattle. Already today an extremely tense situation is developing in a number of regions with regard to rapeseed processing.

In the fruit and vegetable canning industry, each year numerous sovkhoses and kolkhozes with a low level of commercial fruit and vegetable production are attached to large plants, as before. Thus, in the Krasnodar Production Association of the Canning Industry the radius for shipping raw materials reaches 180-280 kilometers; in particular, 48 enterprises ship fruit and vegetables an average of 100 kilometers to the Adygeyskiy Canning Plant. The Nartkalinskiy Canning Plant (Kabardino-Balkar ASSR) receives raw material from over 50 enterprises located in seven different rayons of the republic (7, p 26). All of this results in losses of raw-material mass, in substantial decreases in its quality and in the growth of transportation expenditures.

The low level of concentration in potato farming and the absence of the necessary raw-materials zones in the starch-molasses and alcohol industries results in significant losses of raw-materials mass. For example, some of the larger enterprises processing potatoes are supplied with raw materials by over 150-200 enterprises and the radius of potato shipments reaches 250-300 kilometers.

In determining optimal sizes of enterprises located in zones where commercial agricultural production takes place, it is essential to consider the future development of the raw-materials base, the growth of sowing area and the concentration and specialization of agricultural production.

In recent years two directions have been followed in the development of the mixed feed industry--increasing the capacities of state enterprises and expanding the building of kolkhoz, sovkhos and interfarm mixed feed plants and shops.

Mixed feed production in state enterprises is increasing steadfastly: in 1965--15.5 million tons, in 1980--64.4 million tons (1, p 193); it is growing rapidly in kolkhozes, sovkhoses and interfarm enterprises. It is this type of mixed feed enterprises, built with resources allocated from the state as well as to a significant degree from enterprises themselves, as attested to by the experience of Moldavia, the Ukraine and a number of regions of the RSFSR, that is capable of increasing the production of mixed feed more rapidly, of utilizing local grain forage and other feed resources more efficiently, of decreasing the shipping volume of mixed feeds and shipping expenses, of decreasing losses of mixed feed during long-distance shipments and of curtailing countershipments. Usually such enterprises are relatively small and their capacities must be designed for satisfying the needs of livestock raising for mixed feeds within a radius of 50-60 kilometers.

At present, the state, kolkhozes and sovkhoses spend an enormous amount to transport mixed feeds. The large volume of shipments of mixed feeds is the result of considerable shortcomings in the distribution of enterprises of the mixed-feed industry because the main principle of their distribution--maximal proximity to the consumer region--has been violated.

In the future it would be expedient to organize the production of mixed feed so that most of it is processed directly in kolkhozes and sovkhoses or in interfarm mixed-feed enterprises. The state mixed feed industry could supply them with the necessary protein-vitamin and mineral supplements and it could also supply large specialized livestock-raising complexes and poultry factories with mixed feeds.

Improvements are needed in the distribution of a number of branches of the first sphere of the APK, which supplies agriculture with production resources. This refers, for example, to enterprises that process mineral fertilizers. The vast zone of Siberia and the Far East essentially does not have a developed base for their production. Significant resources are spent annually to transport fertilizers from the European part of the country and Kazakhstan. Considering the acute shortage of mineral fertilizers in this region and the necessity to strengthen the feed base here it appears expedient to develop the production of mineral fertilizers in Siberia and the Far East.

Great territorial differences in conditions for managing agriculture and for developing other branches of the agro-industrial complex require more thorough regionalization in implementing scientific-technical policies in the first sphere of the APK. Regions experiencing a shortage of labor resources must direct measures of scientific-technical progress first and foremost at economizing on human labor. It is here, for example, that it is expedient to build, on a priority basis, livestock-raising complexes, which decrease the labor intensity of production. In places where a shortage of water resources exists, measures that will facilitate water conservation must be implemented on a priority basis.

Measures to improve the direction of this large sphere of the national economy are called upon to facilitate improvements in the territorial structure of the APK. From the point of view of management, the APK differs from other national economic complexes by a certain degree of complexity. This is due not only to its large scale.

In the APK, as in no other sphere of the national economy, it is essential to consider the effect of social processes on production which is carried out in state and cooperative enterprises as well as on the private plots of kolkhoz farmers, workers and employees. Natural-climatic conditions have a considerable effect on the development of agricultural production. Consequently, we are dealing with the total effect of economic, social, natural-climatic and biological factors, which of course makes certain demands on the administration of the APK. Moreover, it should be kept in mind that its structure essentially represents all branches of material production--industry, agriculture, building and transport. In connection with this, a comprehensive interbranch approach is especially important in APK management.

An analysis of the agro-industrial complex attests to the fact that there are factors in operation that enhance tendencies toward branch as well as territorial beginnings for APK development. An objective basis for these tendencies is the dialectic unity of branch and territorial forms of public division of labor and their mutual dependence on each other, which becomes more and more complex in nature as production forces increase.

Scientific-technical progress gives rise to the necessity to make production specialization more thorough and increases the need to implement a single technical policy, which results in a strengthening of the branch aspect of planning and administration. On the basis of specialization new branches are created within the APK and the number of technologically-based production sections increases. This process is accompanied by an expansion of the circle of branch management organs.

At the same time, the development of narrow branch specialization itself gives rise to the need to integrate management within the APK system, since the new branch links acquire a type of self-sufficiency and since the achievement of the final goal--satisfying the population's need for food products and other end products of the APK seem to be pushed into the background as private intermediate goals are fulfilled. This individualism of branches can be eliminated on the basis of a comprehensive approach to APK management, oriented toward the effective achievement of the end result.

As we know, the May 1982 Plenum of the CPSU Central Committee paid the most serious attention to problems of APK management. In accordance with the decisions of the plenum, branches that are part of the complex are distinguished as independent planning and management objects. APK management organs have been developed at different levels. At the present time, research and experiments are being carried out to further improve the forms of management in these spheres of the national economy.

On the level of individual regions the need for integrating management arises first and foremost with regard to the relationship between agriculture, branches that process raw agricultural materials and service branches (infrastructure). The constant factor that strengthens the tendency to integrate their management in individual territorial units includes regional soil-climatic and economic characteristics of agricultural management and management of the APK's central link, as well as the characteristics that are social in nature. The result of this objective necessity was the formation of territorial management organs--agro-industrial associations.

In connection with this, a difficult problem arises involving the inter-relationship between branch and territorial APK management organs. Its solution requires, above all, a precise demarcation of the functions of branch and territorial management. It seems that branch organs must focus their attention primarily on questions related to a single scientific-technical policy, zonal specialization, a determination of the country's needs for a particular product and supplying branches of the APK with material-technical resources. The function of territorial organs is to coordinate the activities of agricultural enterprises, service and processing branches in a given

territory with the goal of achieving end results on the basis of the effective use of all types of products.

The demarcation of management functions must be reflected within the system of planning and the entire economic mechanism. At the present time the branch principle of management is still of predominant significance. Branch organs still have the larger portion of capital investments, material resources and building capacities at their disposal. Directive planned goals include a large number of intermediate branch indicators and do not to a significant degree reflect the end results of APK operations in a territorial cross-section. Numerous questions arising in region in regard to coordinating the operation of enterprises of various departments are often beyond the competency of management by territorial organs and can be solved only through the central apparatus of ministries. Interbranch cooperation is difficult.

It is expedient to set limits for territorial APK organs on capital investments and material resources without a breakdown according to branches, to exclude indicators of an intermediate nature from the state plan for agro-industrial associations, to give them the right to establish plan goals for all enterprises belonging to these associations, and to determine the sizes and distribution of these enterprises. Branch plans on a national scale for groups of APK branches can be formulated on the basis of proposals by territorial management organs.

The development of efficient interbranch cooperation within the APK system can facilitate an increase in the independence of enterprises. This will enable us to organize direct and extensive contacts between them "in a horizontal plane," regardless of departmental affiliation and to coordinate decisions necessary for the effective use of resources without including higher management organs in this procedure.

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AGRO-ECONOMICS AND ORGANIZATION

CREDIT EXTENSION FOR KOLKHOZ PRODUCTION DEVELOPMENT

Moscow DENG I KREDIT in Russian No 10, Oct 84 pp 15-20

[Article by V. V. Kochkarev: "Credit and the Development of Kolkhoz Production"]

[Text] The implementation of measures foreseen by the decisions of the May 1982 Plenum of the CPSU Central Committee related to further improving the economic mechanism, and great financial aid have created the necessary conditions to increase agricultural production output, to strengthen the economies of kolkhozes and sovkhozes and to raise their profitability, to strengthen the principles of cost accounting and to achieve expanded reproduction by means of the enterprise's own resources.

At the present time in the country there are 26,000 kolkhozes. The volume of gross agricultural production in kolkhozes equalled 46 billion rubles in 1983. In comparison to 1982 the total volume of gross agricultural production in kolkhozes increased by 2.9 billion rubles, or 7 percent, with increases in farming production of 1.4 billion rubles or 6 percent, and in livestock raising--1.5 billion rubles or 8 percent. In comparison to the average annual levels of the 10th Five-Year Plan kolkhozes increased gross agricultural production output by 2.4 billion rubles. In 1983 as compared to 1982 the production of potatoes increased by 12 percent, of sugar beets (industrial)--by 14 percent, of livestock and poultry--by 10 percent and of milk--by 8 percent.

In 1983 as compared to 1982 kolkhozes increased sales to the state of the following: potatoes--by 20 percent, sugar beets--by 16 percent, livestock and poultry--by 9 percent and milk--by 10 percent. In comparison to the average annual volume for the 10th Five-Year Plan, in 1983 the sale of products to the state by kolkhozes increased: potatoes--by 27 percent, livestock, poultry and eggs--by 5 percent and milk--by 12 percent.

As a result of production growth, the increase in procurement prices for agricultural products as of 1 January 1983, the introduction of supplements to them for low-profit and unprofitable enterprises as well as the allocation of budget grants to individual kolkhozes, the income of kolkhozes and sovkhozes has increased. On the whole gross income of kolkhozes for fixed production increased by 62 percent in 1983 as compared to the preceding year and by 59

percent on the average for the years of the 10th Five-Year Plan. Here material expenditures for creating gross kolkhoz income increased by 6 percent in 1983 as compared to 1982.

Of great importance for expanding reproduction is the size of savings obtained by enterprises during the production process. Thus, net income (profits) of kolkhozes comprised 12.5 billion rubles in 1983, which is higher than the average annual level of the 10th Five-Year Plan by a factor of 3.5. Moreover, net income increased not only in its absolute sum. Thus, in 1983 the share of net kolkhoz income in total gross income comprised 36 percent in 1983 and 5 percent in 1982 and 16 percent on the average during the years of the 10th Five-Year Plan.

In 1983 there was a significant increase in the profitability of agricultural production. In the country's kolkhozes as a whole the profitability level (relationship of net income to cost of products sold) comprised 25 percent in 1983. All kolkhozes of Lithuania, Moldavia, Latvia and Estonia completed the 1983 fiscal year with profits.

In connection with the growth in income, kolkhozes increased the investment of their own resources for production expenditures and capital investments, as a result of which the need of farms for long-term and short-term bank credit decreased.

In 1983 as compared to 1982 short-term loans decreased by 2 billion rubles, and repayments increased by 4.3 billion rubles. The savings in credit resources for short-term loans comprised 6.3 billion rubles.

In 1983 kolkhozes for the first time paid back more loans than were issued, as a result of which total indebtedness of kolkhozes in terms of these loans decreased by 0.4 billion rubles during 1 year.

In terms of long-term credit, in 1983 as compared to 1982 loans decreased by 1.8 billion rubles and return increased by 0.7 billion rubles. There was a decrease in the total sum of long-term debts. Savings of credit resources in terms of long-term loans comprised 2.5 billion rubles.

In 1983 total savings of credit resources for short-term and long-term loans comprised 8.8 billion rubles. Remainder monetary resources on current kolkhoz accounts increased by 1.7 billion rubles, equalling 6.3 billion rubles as of 1 January 1984.

At the same time, as an analysis of economic-financial activities of kolkhozes shows, some enterprises have not yet taken the necessary measures to eliminate existing shortcomings in work and have not achieved the fulfillment of measures directed at increasing the effectiveness and quality of work, at the economic expenditure of material and financial resources, at decreasing the cost of production, at increasing labor productivity, at eliminating cases of mismanagement and wastefulness and at repaying bank loans.

In many kolkhozes the cost of agricultural production still remains high, as a result of which profits from the sale of products do not cover production expenses.

Great losses and non-production expenditures have a great effect on decreasing the profitability of agricultural production. Thus, kolkhoz losses remained significant last year due to the death of livestock, the upkeep of barren cows, the premature write-off of fixed capital and its free delivery to state, cooperative and public enterprises and organizations as well as because of other non-production expenses. In many cases the reasons for the death of animals are not established, material compensations from guilty parties is not sought, and the losses are written off as production expenditures with the knowledge of directors of enterprises.

An important condition for achieving further expanded reproduction in kolkhozes is achieving the correct ratios when distributing income into consumption and savings funds. It should be noted that in the country's kolkhozes as a whole in 1983 as compared to 1982 and to average annual data for the 10th Five-Year Plan the structure of distributing gross income has improved.

In 1983 kolkhozes directed 59 percent of gross income into wages for kolkhoz farmers and for individuals recruited for agricultural labor. In 1983 as compared to 1982 kolkhoz deductions for wages increased by 9 percent while gross income increased by 62 percent, and in comparison with deductions made by kolkhozes on the average during the years of the 10th Five-Year Plan--by 24 percent while gross income increased by 59 percent.

If we examine the distribution of net income (profits) we will find that positive changes have occurred here too. Thus, the main part of net income is directed by kolkhozes at replenishing indivisible funds. In 1983 as compared to 1982 the size of these funds increased by a factor of 2.5 in comparison to the average annual size during the 10th Five-Year Plan--by a factor of 1.9. Here the replenishment of fixed capital increased by 2.5 billion rubles in 1983 as compared to 1982 and by 2 billion rubles as compared to the annual average during the 10th Five-Year Plan. Kolkhoz deductions for replenishing working capital during the aforementioned period increased by 1.3 billion rubles and by 1.1 billion rubles respectively.

At the same time the analysis shows that some kolkhozes did not achieve economically-based proportions in distributing income into consumption and savings funds. They allocated the largest part of income for increasing wages for kolkhoz farmers and hired and recruited persons and only a small part for increasing the necessary funds. Such cases were found in the RSFSR, the Uzbek, Lithuanian, Estonian and Azerbaijan SSR's and other republics.

Moreover, examinations have shown that the allocation of resources for wages, supplements to wages and the payment of bonuses as well as for the upkeep of supernumerary workers was without foundation in a number of cases. Thus, in 1982 and the first half of 1983 in 30 sovkhoses and kolkhozes of Volgograd Oblast of the RSFSR 265,000 rubles were spent to maintain 79 supernumerary workers and to make various illegal additional payments. In Progress Kolkhoz

of Torbeyeyskiy Rayon of the Mordovian ASSR 2,900 rubles were spent to maintain four supernumerary units for 6 months in 1983.

Of great significance for achieving normal production processes in kolkhozes is the availability of economically-based quantities of their own turnover capital. In 1983 funds belonging to kolkhozes in the country increased by 41 percent. Their share in forming transitional reserves of commodity-material valuables and production expenditures increased from 15 percent in 1982 to 19 percent in 1983, with a curtailment in the share of short-term loans from USSR Gosbank.

At the same time there are still many enterprises that do not achieve the savings, preservation and purposeful utilization of their own resources, which results in the fact that expended reproduction is carried out by means of Gosbank credit.

Shortages in forming and using turnover capital resulted in the fact that a number of kolkhozes completely spent their own turnover capital.

The Model Kolkhoz Code foresees that enterprises are obliged to replenish turnover capital and to utilize it strictly according to its purpose. Nevertheless, practice attests to the fact that in many kolkhozes expenditures for capital investments and other non-plan expenditures are financed by means of turnover capital. Thus, the total size of diverted resources for the aforementioned purposes equalled 3.3 billion rubles in early 1984, including 1.2 billion for capital investments, 0.4 billion rubles for expenditures not covered by means from special funds and 1.6 billion rubles for repayment of debts. All of these facts have a negative effect on the economies of enterprises and decrease the effectiveness of measures taken by the state to eliminate them.

Of great significance in strengthening the economies and finances of kolkhozes and in repaying bank loans on schedule is the proper use of procurement prices for agricultural products and the payment of supplements to them to low-profit and unprofitable kolkhozes and sovkhozes. Examinations by financial-banking organs concerning this question determined that there are serious violations of the existing order. Thus, in some union republics and oblasts current price lists of procurement prices were not delivered to procurement and trade organizations for a long time and supplements to these procurement prices were not established. In a number of republics (RSFSR, Belorussian SSR, Kazakh SSR, Moldavian SSR) there were cases in which supplements were paid to enterprises that were not included in the list of low-profit and unprofitable enterprises and for products for which supplements had not been established. Some procurement organizations in the Kirghiz SSR and Georgian SSR for a long time did not pay out supplements to enterprises that were on the list of unprofitable and low-profit enterprises.

In accordance with the decisions of the May 1982 Plenum of the CPSU Central Committee, in 1983 kolkhozes with insufficient fixed capital and without their own resources for implementing expanded reproduction were allocated 3.3 billion rubles from the state budget to finance plan expenditures. Whereas on the

whole the country's kolkhozes assimilated 95.6 percent of the resources allocated for these purposes, the kolkhozes of Azerbaijan SSR assimilated only 27.8 percent of resources, of the Georgian SSR--71.9 percent, Moldavian SSR--74.5 percent and Tajik SSR--79.7 percent. One of the reasons for the incomplete assimilation of allocated resources was the absence of planning-estimates documentation confirmed in the established order and insufficient supplies of material-technical building resources and capacities of contractual organizations.

In a number of union republics allocated budgetary resources are sometimes directed at the building of production objects and administrative buildings, stores, chaikhana [tea-drinking establishments in Central Asia], hospitals and so forth, which should be erected using the enterprises' own resources and state capital investments.

As before, there are cases in which the resources of kolkhozes and sovkhoses are diverted into measures that are not related to agricultural production. Often the building of non-plan objects is implemented by hired brigades without the conclusion of contracts and without a determination of the volume and cost of work to be carried out or of conditions for wage payments. In such cases additions to the volume of work carried out are tolerated, state estimates are increased and bonuses are paid out without foundation. Many kolkhozes tolerate free transfer of buildings and structures as well as of material-technical resources to other enterprises and organizations.

Gosbank institutions have strengthened controls over eliminating the use by kolkhozes and sovkhoses of resources allocated for agricultural development for other purposes. When violations are discovered, sanctions are directed against the enterprise and reports are made to local soviet and party organs and if necessary, to organs of people's control and to the office of the public prosecutor.

USSR Gosbank constantly carries out work on improving the system of short-term and long-term loans to kolkhozes.

In accordance with the decisions of the March 1965 Plenum of the CPSU Central Committee, the country's kolkhozes were changed over to direct bank credit. Credit began to more fully consider the special features of turnover of resources in enterprises; its influence on the production-financial activities of kolkhozes was strengthened.

At the same time, direct credit for kolkhozes has considerable shortcomings, as experience shows. One of them is crediting kolkhozes without a consideration of the norms for their own turnover capital, i.e. based on its actual availability. As a result a situation has arisen in which enterprises are not interested in preserving existing turnover resources or in replenishing them or utilizing them in a more effective manner since kolkhoz's own turnover capital spent for various purposes is actually replaced by credit. In recent years the share of kolkhoz's own resources to cover turnover assets has decreased significantly.

USSR Gosbank, with a consideration of the opinion of enterprise specialists, economists and scientists and with the support of local management organs, in 1977 began conducting an experiment on crediting kolkhozes in different regions of the country while taking into account norms for their own turnover capital. At the present time kolkhozes are credited according to the aforementioned system in all union republics. Over 10,500 kolkhozes, or 40.2 percent of the total number, have changed over to this system of obtaining credit.

This work was carried out most actively in the Georgian, Ukrainian, Belorussian, Lithuanian, Moldavian, Kirghiz and Estonian union republics. Here in the Georgian, Lithuanian, Moldavian, Kirghiz and Estonian SSR's all kolkhozes are issued credit after a consideration of their own turnover capital. In the Ukrainian SSR 83 percent of the total number of kolkhozes in the republic have been changed over to this new credit system; in the Belorussian SSR--63 percent and in the Turkmen SSR--77 percent.

The issuance of credit to kolkhozes with a consideration of norms for their own turnover capital is implemented according to loan accounts with the opening of current accounts for them, which achieves a clearer division between kolkhozes' own and borrowed sources for forming turnover capital.

The main advantage of such a credit system is that credit is issued not for seasonal shortages of means in the enterprise as a whole, as is done now for the most part, but in exchange for specific guarantees, i.e. in exchange for actual above-norm remainders of commodity-material values and production expenditures.

This type of credit system obliges kolkhoz directors, bookkeepers and economists to improve bookkeeping accounts, to pay more attention to the efficient use of existing commodity-material values and expenditures, to decrease the reserve of unmarketable and old stock, and to strengthen the financial status of the enterprise.

Most kolkhozes that are issued credit according to this system now compute monthly balances instead of quarterly. This enables enterprises to efficiently and more thoroughly analyze the results of activities using reliable data; it enables Gosbank institutions to implement efficient control over the economic-financial activities of kolkhozes, over the correctness of the issuance of credit and over its timely repayment.

In kolkhozes that are issued credit with a consideration of the norms for their own turnover capital, the results of examinations of security are significantly better than in kolkhozes that are issued credit according to the old system. For example, as of 1 January 1984 the kolkhozes of the Estonian SSR, which have completely changed over to crediting with a consideration of the norms for their own turnover capital, did not have unsecured debts in terms of loans; in the kolkhozes of the Lithuanian SSR only 0.3 percent of the examined total debts were unsecured, as compared to 1.5 percent at the same time in 1983.

The results of economic-financial activity of kolkhozes in Vinnitsa, Poltava and Brest oblasts, which changed over to crediting with a consideration of

the norms for their own turnover capital in 1980, show that this credit system to a large extent facilitates a strengthening of cost-accounting principles, the formation and preservation of an enterprise's own turnover capital and its more effective utilization. In the period since 1980 production and financial indicators of kolkhozes in the aforementioned oblasts improved significantly.

In 1983 the kolkhozes of Vinnitsa Oblast increased gross production output by 17.3 percent in comparison to 1980; during this period gross income more than doubled and net income increased by a factor of 7. Kolkhozes of Poltava Oblast increased gross production output by 6.7 percent during this period; gross income rose 52.5 percent and net income increased by a factor of 3.2. Similar indicators characterize the production activities of kolkhozes in Brest Oblast. Gross production in these kolkhozes increased by 24.2 percent, gross income increased by a factor of 1.8 and net income by a factor of 4.7.

Especially noticeable were deductions from net income to replenish public funds from fixed and turnover capital. These deductions increased in the kolkhozes of Vinnitsa Oblast by a factor of 6.8, Poltava Oblast--3.4 and Brest Oblast--4.5. There was somewhat of an increase in the share of enterprises' own turnover capital in forming turnover assets, and more specifically in the kolkhozes of Vinnitsa Oblast--from 47.1 percent in 1980 to 54.2 percent in 1983 and in the enterprises of Poltava Oblast--from 45.9 to 48.7 percent respectively. In the kolkhozes of Brest Oblast the share of their own turnover capital to cover material values and production expenditures comprised 63.5 percent.

An increase in the share of kolkhozes' own turnover capital had an effect on curtailing the issuance of short-term Gosbank loans for production expenditures. In the kolkhozes of Vinnitsa Oblast they decreased by 13.5 percent, in Poltava Oblast--by 20.8 percent and in Brest Oblast--by 4.5 percent.

With the strengthening of the economies and finances of enterprises there was an increase in the repayment of loans from 127.3 million to 220.4 million rubles, or by a factor of 1.7, in Vinnitsa Oblast and from 105.3 million to 148.8 million rubles, or by a factor of 1.4, in Brest Oblast.

In accordance with the existing system for issuing credit to these kolkhozes, in the year that they changed over to the new credit system they were issued credit to form their own normative turnover capital. The kolkhozes of Vinnitsa Oblast were given 25.9 million rubles of such credit, of Poltava Oblast--26.8 million rubles and Brest Oblast--18.5 million rubles. Here it should be noted that the issuance of this credit facilitated a normalization of the financial status of kolkhozes. This is evident in the example of Kolkhoz imeni Dzerzhinskiy of Pruzhanskiy Rayon, Brest Oblast. This enterprise was given 199,000 rubles of credit to form its own turnover capital at the moment it was changed to the new credit system. By the end of 1983 it had already formed its own turnover capital totalling 516,000 rubles, or 50.5 percent of normative turnover assets as compared to 19.4 percent at the time of its changeover to the new credit system. Credit issued for the formation of the kolkhoz's own turnover capital was repaid on schedule.

In addition to the changeover to the new credit system, Gosbank institutions should secure an increase in the level of analyses of the results of economic-financial activities and effectiveness of credit utilization; they should thoroughly analyze the effect of this credit system on changes in credit relations with kolkhozes with the goal of eliminating existing shortcomings.

In its work Gosbank institutions must focus considerable attention on questions of long-term credit to kolkhozes. It is sufficient to note that in 1983 kolkhozes were issued 3.4 billion rubles of long-term credit. Over two-thirds of this credit was directed by kolkhozes into the building of production objects and into the purchase of technology. The share of credit in expenditures for capital investments comprised 21.2 percent in 1983. Many enterprises effectively utilize long-term credit and repay it on schedule. At the same time, there are essential shortcomings in this area--the absence of contractual agreements and planning-estimate documentation; the lack of resources for operational objects; and shortcomings in planning, which results in the dispersal of resources and the growth of incomplete production.

For the aforementioned reasons Gosbank institutions this year did not accept financing of 20,700 kolkhoz objects with an annual volume of capital investments of 0.9 billion rubles.

Delays in the building of objects in kolkhozes occur in a number of cases as a result of the non-fulfillment of contractual agreements concerning building by inter-kolkhoz building organizations, which in essence do not bear the material responsibility for violations in building schedule.

The existing system foresees that inter-kolkhoz building organizations can carry out work for other clients only after fulfilling the terms of contracts with kolkhozes. However, in practice there are cases in which inter-kolkhoz building organizations carry out work for state organizations on a priority basis, diverting labor and material resources for these purposes. Thus, in the enterprises of the Kazakh SSR the plan for contractual jobs by means of kolkhoz resources was fulfilled by inter-kolkhoz building organizations by 92 percent, and by means of state capital investments--by 120 percent; in the Georgian SSR the corresponding figures were 97 and 107 percent and in the Moldavian SSR--94 and 109 percent.

In addition to this, the aforementioned shortcomings in capital building attest to the fact that many kolkhozes have not achieved the execution of the necessary measures to improve planning of capital investments. The plans of a number of enterprises tolerate a determination of volume of capital investments above the limits considered in calculations for plans of economic and social development, i.e. without a real consideration of the availability of material and financial resources and the limits of contractual jobs.

The plans of a number of kolkhozes in the Ukrainian, Belorussian, Uzbek and Kazakh union republics tolerate a lack of balance between planned expenses and expenditures for capital investments and sources of means to finance them. Here many kolkhozes of these and other union republics do not achieve a complete mobilization of their own resources for capital investments in plans.

If there are overdue long-term Gosbank loans and overdue contract accounts for work done, many kolkhozes do not record the actually-created sources of their own resources into accounts on capital investments. At the same time, if there is a shortage of capital-investment resources and an absence of planning-estimate documentation, many kolkhozes implement non-plan building, thereby tolerating serious violations of plan and financial discipline and diverting resources from primary activities for this purpose.

The presence of serious shortcomings in planning and the implementation of capital building, in carrying out plans for the introduction into operation of fixed capital, in the use of resources allocated for these purposes as well as in the use of fixed capital results in the underproduction by some kolkhozes of significant volumes of agricultural products and net income and in a decrease in the level of production profitability.

In their practical work, Gosbank institutions must direct their economic and control operations at the mobilization by kolkhozes of all intra-enterprise reserves and at their strengthening of economic regimens, thereby facilitating the timely and quality fulfillment of the entire complex of operations.

Without waiting for the end of the year analyses should be made, jointly with agricultural organs, of the results of work during the first half of the year by low-profit and unprofitable kolkhozes, with special attention being paid to how they carry out measures to implement the decisions of the May 1982 Plenum of the CPSU Central Committee concerning strengthening the economies and finances of enterprises. If necessary, corresponding proposals directed at eliminating shortcomings discovered in the activities of kolkhozes and at achieving the timely repayment of credit are to be submitted for examination to councils of agro-industrial associations and to committees of the presidiums of councils of ministers of union republics.

Credit measures yielding results should be taken against kolkhozes that tolerate non-payment because resources are used for purposes unrelated to agricultural production or that divert funds for indebtednesses, capital investments and to cover overconsumption of resources from special funds.

In the process of developing plans for short-term credit to kolkhozes there should be a more thorough consideration of income from increased procurement prices and supplements to them for low-profit enterprises, the mobilization of existing other resources belonging to the enterprise as well as measures planned by enterprises to achieve an increase in labor productivity and to decrease the cost of production. Here it is essential to act on the assumption that under conditions of implementing extensive measures to economically stimulate agricultural production, in accordance with the decisions of the May 1982 Plenum of the CPSU Central Committee, the share of the enterprise's own resources must increase significantly when implementing production expenditures.

It is essential to keep in mind that many kolkhozes, as practice shows, do not present their production-financial plans, which are the main credit documents, to Gosbank on schedule and tolerate serious shortcomings in develop-

ing these plans and in determining their bank-credit needs. In connection with this, measures should now be taken jointly with agricultural organs to make sure that kolkhozes present their 1985 production-finance plans to Gosbank institutions within the established period and with high quality. Under conditions in which measures are being implemented to strengthen kolkhoz economies and finances, in accordance with the decisions of the May 1982 Plenum of the CPSU Central Committee, there should be increased demandingness toward kolkhozes already at the stage of their developing production-financial plans in order to achieve balance in kolkhoz income and outlays, to economize on the use of material and financial resources and to observe the resolutions of the Model Kolkhoz Code regarding increasing wages on the basis of growth in labor productivity and regarding mandatory deductions of income to replenish indivisible funds with fixed and turnover capital as well as to replenish reserve funds.

In examining production-finance plans and in accepting titled lists special attention should be given to the correspondence of limits of capital investments foreseen in the production-finance plans of kolkhozes to amounts considered in accounts for plans of economic and social development and provided by material-technical resources and capacities of contractual organizations and provided to enterprises in the established order.

Kolkhoz production-financial plans not balanced in income and expenditures and plans in which foreseen capital investments are greater than the volumes considered in plans of economic and social development and are not secured by material-technical resources should not be accepted as documents to be used for determining credit.

It is essential to take into account that kolkhozes that implement capital investments on the basis of their own resources (without using long-term Gosbank credit) can in their plans foresee and implement capital investments above volumes considered in the plan of economic and social development if financial resources are available and local material-technical resources are sought out. Here the assumption is that additional capital investments can be implemented if there is no immobilization in the enterprise of turnover capital in capital investments. Security of these capital investments in terms of material-technical resources must be confirmed by the kolkhoz by means of corresponding documents and accounts.

Gosbank institutions must institute strict controls over the transfer by kolkhozes of resources from current (special current) accounts to capital investment accounts with a consideration of actually-obtained income and avoiding the development of immobilization of turnover capital. We should not tolerate the transfer of resources to capital-investments accounts of kolkhozes without their submission of bookkeeping records to the bank. In the interest of the situation there should be a further strengthening of measures involving credit reprisals against enterprises that violate the established order for preserving and using resources earmarked for capital investment.

Adherence by Gosbank institutions to basic credit principles and increasing the effectiveness of controls over production-financial activities of kolkhozes will encourage increased effectiveness in agricultural production.

FORESTRY AND TIMBER

CPSU CC RESOLUTION ON WOOD WASTE PROCESSING

PM041142 Moscow PRAVDA in Russian 1 Mar 85 First Edition p 1

[Unattributed report: "At the CPSU Central Committee"]

[Text] On 18 February 1985 the CPSU Central Committee adopted a resolution "on the experience of the work of collectives of enterprises of the all-union 'Yugmebel' and 'Tsentromebel' industrial associations and the 'Kiyevdrev' production association on the widespread introduction of secondary timber raw material and timber procurement and wood processing waste into economic circulation."

The resolution notes that the collectives of the all-union "Yugmebel" and "Tsentromebel" industrial associations and the "Kiyevdrev" production association of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, in implementing the decisions of the 26th party congress and subsequent CPSU Central Committee plenums on the economical use of material resources, have achieved positive results in raising the effectiveness of the use of timber and introducing secondary timber raw material, and timber procurement and wood processing waste into economic circulation.

The associations' enterprises have introduced waste-free technology for processing timber materials and have modernized existing capacities for the production of wood board [drevesnykh plit] using less material. A large amount of work is underway to collect timber waste at the enterprises and organizations of other ministries and departments engaged in wood processing. Since the start of the Five-Year Plan 1.5 million cubic meters of secondary raw material have been put to use and about 2 million cubic meters of commercial timber have been saved with only a tiny manpower and financial expenditure. The total saving has been over R30 million. The associations are successfully fulfilling plan targets, are constantly building up the production and consumer goods, and are expanding their range and improving the quality of output.

Krasnodar Kraykom, Bryansk and Rostov CPSU Obkoms, and Moscow and Kiev party gorkoms are displaying constant attention to the intensification of organizational and mass political work to mobilize the enterprises' labor collectives to enhance the effectiveness of the use of timber materials. Party, trade union, and Komsomol organizations are forming in every worker, engineer,

and technician a sense of high responsibility for the thrifty, economical, and rational use of resources and are directing efforts toward seeking out internal production reserves and putting them to use.

The enterprises' labor collectives have widely launched socialist competition for labor productivity growth, production intensification, a fitting greeting to the 27th CPSU Congress, and the fulfillment of the targets of the 11th Five-Year Plan by the 68th anniversary of Great October and for working at least 3 days a year using economized resources.

At the same time the CPSU Central Committee resolution notes that the positive work that the enterprises of the above-mentioned associations are performing to introduce secondary timber raw material and wood waste into economic circulation has so far not been widely disseminated in the sector. The USSR Ministry of the Timber, Pulp and Paper, and Wood Producing Industry has failed to take proper steps for the mass introduction of this valuable experience. It has failed to resolve a number of questions of the organization of the collection, planning, and accounting of wood processing waste, has failed to create the necessary service for the purpose, and has failed to draft measures to put to use waste from wood processing and secondary timber raw material at the enterprises of other ministries and departments.

The CPSU Central Committee has approved the experience of the work of the collectives of the enterprises of the "Yugmebel" and "Tsentromebel" industrial associations and the "Kiyevdrev" production association in introducing extensively into economic circulation secondary timber raw material and timber procurement and wood processing waste.

It has been recommended to the economic leaders and party, trade union, and Komsomol organizations of these enterprises and associations that they rely on accumulated experience to work still more vigorously to seek out and put into operation reserves for saving and making rational use of timber resources and that they mobilize collectives to further improve the efficiency of production and quality of the articles produced, ensure an above-plan growth of labor productivity, and reduce the prime cost of output.

The CPSU Central Committee has obliged the leadership of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry to eliminate shortcomings in the organization of work on the widespread use of wood waste and secondary timber raw material. It has demanded that the ministry collegium and Minister M. I. Busygin personally ensure the universal dissemination of the experience of the work of the "Yugmebel," "Tsentromebel," and "Kiyevdrev" association collectives.

The attention of the associations and enterprises, scientific research and planning institutes, and design bureaus of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry must be focused on the elaboration and assimilation of new waste-free manufacturing processes and the study and introduction of leading Soviet and foreign experience in order to organize extensively the industrial processing of all types of timber raw

material. Work in this direction must be performed in close contact with local party and soviet organs, relying on their aid and support.

The Central Committee of the Trade Union of Workers of the Timber, Pulp and Paper, and Wood Processing Industry in conjunction with the leaders of economic organizations has been instructed to galvanize work on the dissemination of leading methods of work and production, and on the enhancement of the effectiveness of socialist competition for thrift and economy, the reduction of the prime cost of the output produced, and the attainment of good end results.

With a view to studying and widely disseminating the positive experience of the work of the collectives of the enterprises of the "Yugmebel," "Tsentromebel," and "Kiyevdrev" associations, it has been deemed expedient to hold an all-union seminar of party, economic, trade union, and Komsomol workers in May 1985 in Rostov-na-Donu.

The CPSU Central Committee has instructed the union republic communist party central committees and party kraykoms and obkoms to step up mass political and organizational work in the labor collectives of enterprises of the timber, pulp and paper, and wood processing industry aimed at the widespread dissemination of the experience of the "Yugmebel," "Tsentromebel," and "Kiyevdrev" associations in saving and making rational use of timber raw material and putting wood waste to use. All this work must be linked more closely with production tasks, the collectives' efforts must be directed toward the fulfillment of the plans for the concluding year of the Five-Year Plan and the all-around saving of manpower, material, and fuel and energy resources, and more systematic aid must be rendered in their work to party organizations of the timber procurement, pulp and paper, and wood processing industries.

CSO: 1824/259

FORESTRY AND TIMBER

TIMBER OFFICIAL DISCUSSES TRANSPORT SERVICE

Moscow LESNAYA PROMYSHLENNOST' in Russian 5 Jan 85 p 2

[Article by A. G. Prokhorenko, director of the Transportation Administration of USSR Minlesbumprom [Ministry of the Lumber and Paper Industries]: "Contact Is Being Strengthened"]

[Text] Transportation workers played an important role in the successful completion of the annual plan to ship timber. We are speaking about those who unload timber onto railroad cars. Our reporter asked A. G. Prokhorenko, Director of the Transportation Administration of USSR Minlesbumprom, to discuss these workers' contribution to this labor victory and to talk about plans to reach the 108 million goal by the 40th anniversary of the Great Victory.

The pace of shipments depends not only on the condition of the roads or on the weather in a meteorological sense. No less important is the "atmosphere" in the lower storehouses. And it is created by business-like relations with the workers on railroads.

To the credit of branch transport workers, in the past year they were able to significantly increase the volume of shipments. This was achieved by means of improving the organization of competition with railroad workers and of strengthening business-like contacts with them. Here a large role was played by the operations staff, which was created in spring 1984 from among representatives of our ministry, MPS [Railroad track machine stations] and Soyuzglavles [All-Union Main Administration of the Timber Industry].

Here is an example. We have timber industry enterprises such as Bisertskiy and Shchuch'ye-Ozerskiy. They are located on the border of the Gor'kiy and Sverdlovsk lines. This type of "intermediate" location was reflected negatively in their supply of railroad cars. This resulted in constant complaints--storehouses are full and empty cars are not being provided. The operations staff became involved, and the "out of favor" enterprises were relieved of their surplus wood. The same was true for the collectives of Yurtinskiy and Biryusinskiy LDK [Sawmilling and woodworking combines], which were located at the junction of the Krasnoyarsk and Eastern Siberian railroads.

In other words, changes in the past year are obvious. The timber remaining in the lower storehouses speaks of this. As of 1 January of this year timber stores equal 11.5 million cubic meters, or almost 400,000 cubic meters less than during the same period last year. The fact is not only that railroad workers have increased their attention to timber shipments. It should be noted that in some of our associations the use of rolling stock has improved. Deserving of kind words in this regard are the collectives of Sverdlesprom [Sverdlovsk Timber Industry Association], Tomlesprom [Tomsk Timber Industry Association], Tyumen'lesprom [Tyumen' Timber Industry Association], Kemerovo-les [Kemerovo Timber Association] as well as enterprises of Belorussia's Ministry of the Timber Industry. It is particularly satisfying that it was possible to increase the statistical load of cars and thereby to free over 8,000 units of rolling stock for additional shipments.

However, in the branch as a whole one would not call the situation involving the shipment of timber satisfactory. After all, we did not fulfill the annual shipping plan. We had hoped that in December we would be able to make up for some of the debts incurred in the early part of the year. But it was precisely during this month that railroad workers decreased their supply of empty railroad cars.

Still we should not throw up our hands at temporary setbacks. I repeat that on the whole the past year was characterized by a strengthening of business-like contacts with railroad workers. And we do not intend to give up these advances. On the contrary, we will develop in every way possible the spirit of labor competition and mutual advantage at the junctions of "stations and the timber industry." This is all the more important because this year timber procurers are facing a difficult but honorable task--to ship 108 million cubic meters of wood by the 40th anniversary of victory. It is clear that here not only organization efforts but technical aid also are required. This type of aid has been foreseen by USSR Minlesbumprom. This year an additional 228 cranes will be installed in lower storehouses and the capacity of the storehouses themselves will increase by 318,600 cubic meters. In addition, it is planned to lengthen loading lines by 23.6 kilometers and lines within reach of cranes--by 28 kilometers, to carry out capital repairs on 187 kilometers and to renew 383 kilometers of approach lines by means of intermediate repairs. In other words, the branch's transportation workers are preparing a firm foundation for achieving the indicated goals.

8228

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LAND RECLAMATION AND WATER MANAGEMENT

MINISTER DISCUSSES INCREASED FERTILITY

Moscow EKONOMICHESKAYA GAZETA in Russian No 1, Jan 85 p 16

[Article by V. P. Loginov, RSFSR minister of land reclamation and water management: "Increasing the Return From the Hectare"]

[Text] The collectives of land reclamation organizations in Russia are currently developing concrete measures for successfully implementing the decisions of the October (1984) Plenum of the CPSU Central Committee, which adopted a long-term program for land reclamation. Special attention is being devoted to improving the quality of land reclamation construction and increasing the return from each hectare.

There Are Reserves for Increasing the Yield

The conditions for agricultural production in the Russian Federation are fairly complicated. About 60 percent of the agricultural products in the republic come from a zone with inadequate moisture. But the central chernozem zone periodically suffers from too much moisture. All this, of course, leads to sharp fluctuations in the production of farming and animal husbandry products. This is why land reclamation (and almost all agricultural land in the republic needs one kind of improvement or another) acquires exceptional importance.

In the final year of the five-year plan land reclamation workers of Russia are to introduce 289,000 hectares of irrigated land and 319,500 hectares of drained land. It will be necessary to put into operation the Pravo-Yegorlykская irrigation system in Stavropol Kray, the Luzhinskaya in Omsk Oblast, and the Gorodokskaya and Abakanskaya irrigation systems in Krasnoyarsk Kray.

In addition to new land reclamation construction, reconstruction of existing systems and other work will be conducted which contribute to increasing the productivity of improved agricultural land.

The overall area of irrigated and drained land in the republic has reached 10.4 million hectares. This has made it possible to sharply increase the production of rice, vegetables, feeds and other agricultural products. Land reclamation has reached almost all of the main agricultural regions of Russia.

Occupying about 5 percent of the overall area of agricultural land, irrigated land produces almost 15 percent of the gross products of agriculture. All of the rice, more than 70 percent of the vegetables, a considerable proportion of the coarse and juicy feeds, and many other products are produced on them.

Many kolkhozes and sovkhoses and also individual oblasts, krays and autonomous republics from year to year receive large and stable yields of all crops from these lands. Thus on the farms of the Kalmyk ASSR, according to preliminary figures, in 1984 they received 41.6 quintals of grain per hectare on irrigated land and in the Kabardino-Balkar ASSR--43.6 quintals.

Still, the great possibilities of increasing the productivity of irrigated and drained lands are not being fully utilized. This is why at the October (1984) Plenum of the CPSU Central Committee they especially emphasized the need for a radical improvement in the utilization of reclaimed land and for obtaining large yields from existing irrigated and drained land even in the next few years. In his speech at this plenum Comrade K. U. Chernenko, in particular, noted that almost every other oblast in the RSFSR has not increased the productivity of improved lands for many years. On a number of kolkhozes and sovkhoses the level of agricultural production on these lands is practically no different from farming on nonreclaimed land.

In order to successfully carry out the assignments for land reclamation construction, the labor collectives of the ministry must eliminate the shortcomings that exist.

Water management organizations, as was correctly noted at the plenum of the CPSU Central Committee, frequently allow poor quality of work and delay the start-up of land reclamation projects. For example, plans for the start-up of reclaimed land are regularly not fulfilled by the Bashmeliovodstroy, Novosibirskvodstroy, and Chitameliiovodstroy trusts, the Krasnoyarskvodstroy Association and others.

The Fault of the Land Reclamation Workers

A serious shortcoming in the work is the arrears in the construction of large water management facilities. At the same time the material-technical and labor resources are dispersed among numerous secondary facilities. The Krasnoyarskvodstroy, Altayvodstroy and Donvodstroy associations, and the Penzavodstroy Construction Administration do not utilize funds which are intended for the construction of facilities for agricultural assimilation of reclaimed land. The number of construction organizations are continuing to allow slipshod work and are putting facilities into operation with incomplete aspects. An evaluation of "satisfactory" is given to 10 percent of the facilities for irrigation and 15 percent of the facilities for drainage when they are put into operation.

For unconditional fulfillment of the earmarked program land reclamation workers need help from industry. It is necessary to considerably increase the production of the more modern wide-grasp sprinkling equipment, including machines of the Fregat and Volzhank type and others, power pumping equipment, and floating and block-set pumping stations. Increased reliability of land

reclamation systems requires the organization of industrial production of pipes with an interior anticorrosion coating.

The enterprises in the system of the RSFSR Ministry of Water Management which produce pipes with glass enamel coating on two sides can satisfy only a small part of the need for insulated pipes. It is also necessary to increase the production of pressure and drainage plastic pipes, stabilized polyethylene film, polyethylene and other materials. It will be necessary to accelerate the development and expand the production of means of automation, protective items, expenditure gauges and other instruments and items.

Irrigation Networks--Reliability in Operation

Land reclamation systems and water management facilities in the Russian Federation are a large and complicated business. They include large canals such as the Bolshoy Stavropol Canal, the Don Mainline, the Tersk-Kuma, Saratov, Kuybyshev, Kulunda in Altay Kray, water reservoirs, large pumping stations and other hydrotechnical installations. The length of the irrigation network in the republic alone now amounts to 400,000 kilometers. The systems have 1.7 million hydrotechnical structures, 6,500 stationary electric pumping stations and many other facilities as well as a large number of sprinkling machines.

But in a number of rayons they have neglected the work for maintaining land reclamation systems in the proper condition and they do not provide for high effectiveness of production. Thus in Ryazan, Kostroma, Irkutsk, Kirov and several other oblasts repair and operation organizations perform less than half of the necessary volumes of repair work. Shortcomings in the activity of the operations workers lead to a deterioration of the reclamation condition of irrigated and drained land. For this and other reasons in 1984 136,000 hectares of land were not used in agricultural production and 550,000 hectares were not irrigated.

In recent years a number of measures have been taken which have been directed toward organizing and developing the repair and operations services. At the present time in the RSFSR there are more than 900 repair and operations organizations working, which employ about 100,000 people. The volume of work performed by them has increased in recent years. But still the needs of the farms for repair work in the intrafarm network are being satisfied by 70-80 percent, and technical services carried out only partially in many cases. A decision made at the plenum of the CPSU Central Committee concerning transferring the intrafarm land reclamation network to the books of water management organizations and the establishment of clear-cut contractual commitments for the utilization of irrigated and drained land will help to increase their productivity.

At the present time, in order to bring operations organizations closer to the administrative rayons, as an experiment, on the basis of administrations for operating land reclamation systems and mobile mechanized columns for repair and construction, rayon and interrayon production and repair-operation associations are being created for land reclamation and water management. The

new organizations, which will carry out their activity within the framework of the administrative rayon, are organically included in the RAPO.

Mutual Responsibility

Contractual relations among kolkhozes, sovkhoses and water management and operations organizations for effective utilization of reclaimed land and the increased responsibility of managers of water management organizations under the conditions of mandatory reimbursement for the value of products that are not received at the expense of the guilty party make it incumbent on us to radically restructure our work. Within the next 2 or 3 years we will have to reach planned productivity on all reclaimed land. The contractual relations and the material responsibility make it possible to put an end to anonymity in the utilization of reclaimed land and to considerably increase its effectiveness.

In this connection it is necessary to accelerate the development of the corresponding normative documents which determine the mutual responsibility of the farms and the enterprises and organizations that serve them for effective utilization of the land.

The long-term program in the RSFSR envisions a two-threefold increase in the output of work for qualitative improvement of existing reclaimed land, and all kinds of crop work will be conducted on a significant area. Land reclamation in Russia will make it possible to appreciably increase the gross yield of grain, and there should especially be an increase in the yield of corn grain.

One of the key tasks of the forthcoming period is a sharp increase in the production of vegetables and feed on reclaimed land.

Land reclamation workers are now faced with the task of successfully completing the assignments of the current five-year plan and creating a good reserve for work in the future.

11772

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LAND RECLAMATION AND WATER MANAGEMENT

OFFICIALS SET FORTH RSFSR RECLAMATION PROGRAM

Moscow SEL'SKOYE KHOZYAYSTVO ROSII in Russian No 1, Jan 85 pp 2-4

[Article by N. Radugin, chief of the division for land reclamation and water management of the RSFSR Council of Ministers, candidate of economic sciences, honored agricultural worker of the RSFSR: "The Plan for Large Creative Work Projects"]

[Text] It was with immense enthusiasm that agricultural workers received the decisions of the October (1984) Plenum of the CPSU Central Committee, which considered large additional measures directed toward implementing the Food Program on the basis of extensive land reclamation. The main thing in the decisions of the plenum was concern for steady improvement in the standard of living of the Soviet people. Only 2 years have passed since the Food Program was adopted, but even in that relatively short period of time the production of agricultural products has increased by billions of rubles.

Still, it was emphasized at the Central Committee Plenum that in a number of areas of the agricultural complex the situation remains difficult, and the growth rates of the volumes of production of meat, milk, grain and vegetables do not fully meet the increased demands. Large-scale measures approved by the plenum are directed toward transforming agriculture into a highly developed sector of the economy and toward further development of all of its branches. "We are speaking not about a shift of emphasis in our directives," Konstantin Ustinovich Chernenko noted in his speech at the plenum, "but about truly innovative and creative approaches. On the basis of this, the Central Committee is today raising the question of large-scale development of land reclamation, regarding it as a decisive factor in the further advancement of agriculture and stable growth of the country's food supply."

Agriculture in the Russian Federation is developing under difficult natural and climatic conditions. Two-thirds of the agricultural land is located in arid regions. More than 15 million hectares in the Nonchernozem Zone, Siberia and the Far East require drainage. In the RSFSR there are large areas of acid, saline and eroded soils.

During the 1970's the difference between the maximum and minimum yields of grain in the republic reached 59 million tons, which is 60 percent of the average annual yield of grain during 1979-1980. But for the Central

Chernozem, Northern Caucasian and Volga economic regions the fluctuations in the production of grain exceeded 70 percent.

In order to obtain stable yields it is necessary to reduce to a minimum the farmer's dependency on the caprices of the weather, and here large-scale land reclamation is a real basis for increasing the guaranteed food supply.

Today the area of reclaimed land in the republic amounts to 10 million hectares, and technical crop work has been conducted on 18 million hectares. During the past decade there has been a changeover from the construction of small sections to the creation of large land reclamation systems. Large irrigated areas have been introduced on the basis of the Bolshoy Stavropol, Pravo-Yegorlyk, Tersk-Kuma, and Don canals in the Northern Caucasus, and the Seratov and Kuybyshev--in the Volga area. Modern rice systems have been created in Krasnodar and Maritime krays and around the lower reaches of the Volga. Comprehensive land reclamation and agrotechnical improvement are being carried out on large areas in the Nonchernozem Zone, Siberia and the Far East, which includes drainage, technical crop work and general improvement of the land.

The technical level of land reclamation construction has risen significantly. A large proportion of the irrigation systems are now being constructed with stationary and electric pumping stations and wide-grasp irrigation equipment. Drainage is mainly carried out by closed drainage systems. Irrigation using local water is becoming widespread.

These and other measures have made it possible to significantly increase the productivity and the gross yields of agricultural crops on reclaimed land. At the present time all of the rice, 70 percent of the vegetables, one-fourth of the coarse and juicy fodders, 22 percent of the corn grain and many other products are produced on this land. During the past 3 decades practically all of the increase in crop-growing products has come from reclaimed land. Occupying 4.6 percent of the agricultural land, they produce almost 15 percent of the gross products from agriculture.

High indicators in the utilization of reclaimed land are being achieved not only by individual farms and rayons, but also by entire oblasts. They are harvesting 300-400 quintals of vegetables per hectare in Moscow and Leningrad oblasts, and more than 70 quintals of hay from perennial grasses in Stavropol Kray and Saratov Oblast. More than 40 quintals of grain are being received from irrigated land in Krasnodar Kray.

The possibilities of land reclamation are most fully disclosed on the leading farms which, on the basis of an advanced art of farming, receive yields that exceed the planned amounts. The Meliorator Sovkhoz in Volgograd Oblast, under the arid conditions of the Volga area, in 1983 raised 54.8 quintals of grain crops on irrigated land, 145 quintals of hay and 547 quintals of green alfalfa mass from each hectare. The Kolkhoz imeni Kirov in Slavgorodskiy Rayon in Altay Kray received 104 quintals of hay of perennial grasses and 465 quintals of green mass from corn on irrigated land. The Krasnyy Oktyabr' Sovkhoz in Leningrad Oblast received a vegetable harvest of 442 quintals per hectare from

drained land in 1983, and the yield of hay from perennial grasses was 75 quintals per hectare.

A progressive form of organization and payment for labor should correspond to the intensive technology for the cultivation of agricultural crops on reclaimed land.

The experience of the leading farms shows that assigning improved land to permanent cost-accounting subdivisions that operate under the conditions of the collective contract considerably increases labor productivity and reduces the production cost of the products. Thus on the Kommunisticheskiy Mayak in Kirovskiy Rayon in Stavropol Kray the brigade to which irrigated land was assigned during the past 2 years has received an average of 40.3 quintals of grain and 134.5 quintals of feed units per hectare.

But there are still serious shortcomings in the utilization of reclaimed land. This is precisely why, it was noted in the materials of the plenum, for a long time the planned productivity was not achieved on a considerable area, and the funds invested by the state are still not producing the necessary return.

In 1983 two-thirds of the Russian farms which have reclaimed land did not achieve the planned productivity on them. And this is explained primarily by the fact that the technology adopted here is not very different from that for nonirrigated land and they do not fully observe the required complex of agrotechnical, agro-ameliorative and organizational-economic measures.

Irrigated land is utilized poorly in the Dagestan and Checheno-Ingush ASSR's and in Rostov Oblast. The return from irrigated land is low in Novosibirsk, Omsk, Bryansk and Ryazan oblasts, where the productivity of grain crops is considerably less than planned.

Shortcomings in the operation of land reclamation systems reduce the productivity of improved land. The farms' need for repair work is being satisfied by 70-80 percent, and technical servicing is not carried out comprehensively. Funds allotted by the state for these purposes are not being fully assimilated. Water management organizations regularly fail to fulfill the plans for land reclamation construction. For example, the plan for the start-up of the capacities in large construction sites during 1976-1984 were fulfilled by only 45 percent.

In spite of the large volumes of land reclamation work that have been conducted, the areas of plowed land and other agricultural land in the RSFSR are increasing slowly, and in certain zones they are even decreasing. During the past 13 years the amounts of plowed land have decreased in Pskov, Bryansk, Kalinin, or Orel, Kuybyshev, and Novosibirsk oblasts, and in the Chuvash, Tatar and Udmurt autonomous republics. Hayfields and pasturelands have decreased by almost 3 million hectares (mainly as a result of being grown over by trees). Large areas of this kind of land have been written off in Vologda, Arkhangelsk, Novgorod, Kirov, Kostroma and Tomsk oblasts and in Altay Kray.

In this connection, the long-term program for land reclamation adopted by the Plenum of the Central Committee devotes special attention to preserving the

and. A task was set not only to put a stop to the process of removing it from agricultural circulation, but also to begin work on a large scale for restoring neglected land and putting it in order. In this connection it is useful to recall the experience of Tyumen Oblast, where, with the help of technical crop work, the agricultural land was radically improved and the area under plowing is being increased. Here all farms of the oblast have engaged actively in land reclamation work and, on the basis of cooperation with land reclamation workers, industrial enterprises and organizations, have created permanent specialized detachments. Technical crop work is being conducted comprehensively. All this has made it possible for Tyumen Oblast during the past years to expand the area of arable land by 200,000 hectares. Certain rayons have begun to receive almost one-tenth of their products from the new land.

The RSFSR Council of Ministers has approved the experience of the Tyumen workers and has recommended it for extensive introduction.

In the Russian Federation it is intended to increase the areas of irrigated and drained land to 13.6 million hectares by 1990, and by the year 2000 they will have doubled and will amount to more than 19 million hectares. In the forthcoming period it is intended to increase the volumes of work for improving existing reclaimed land two-threefold.

Land irrigation will be developed most in the southern regions of the republic--in the Northern Caucasus and in the central and lower Volga areas, where the necessary conditions and labor resources exist for this and where it is possible to considerably increase the production of corn grain, rice, soybeans, vegetables, fruits and feeds.

Land reclamation will be carried out at more rapid rates in Altay Kray, Novosibirsk, Omsk and Kemerovo oblasts, and above all in the Kulunda Steppe. In Western Siberia by the year 2000 the areas of irrigated land should reach 950,000 hectares, a fourfold increase over today. Irrigated land is to be introduced in considerable volumes in the areas of the Central and Central Chernozem regions, Eastern Siberia and the Far East.

It is also intended to considerably expand the areas irrigated with local water. At the present time 1.8 million hectares in the republic are being irrigated from ponds and small water reservoirs, and there is the possibility of doubling this figure. In the Northern Caucasus, the Central Chernozem and the Central economic regions and in the Kulunda Steppe it is planned to extensively utilize underground waters for irrigation. Under the 12th Five-Year Plan it is intended to carry out measures that will provide for basically complete salvaging of waste waters from large animal husbandry complexes that are in operation.

The experience that has been accumulated in the republic in utilizing 300,000 hectares of land with firth irrigation convincingly shows its high effectiveness. With small capital investments this kind of land reclamation provides for a considerable increase in the feeds in the southern steppe regions of the republic. By 1990 the area of firth irrigation will be increased to 500,000 hectares.

A large amount of work will have to be done in the zone with surplus moisture. Here we shall carry out a planned changeover from draining separated sections to comprehensive land reclamation and agrotechnical improvement of agricultural lands on large areas, conducting drainage, technical crop work, recultivation and agricultural assimilation of the improved land.

The Nonchernozem Zone of the RSFSR will receive the greatest development of drained land. The areas of drained land will reach 6.6 million hectares here by 1990. In this zone we shall construct mainly closed drainage systems, the proportion of which will increase to 80 percent.

By the year 2000 it is intended to basically complete the work for flooding pastures and to reconstruct outdated water catchment structures in places where they exist. This will make it possible to create a stable base for the development of meat cattle farming and sheep raising.

The implementation of an extensive program for water supply and sewerage in rural villages will be a significant contribution to the social development of rural areas. Today only 44 percent of the rural population points have centralized water supply. By the years 2000 it is planned to provide basically all of the rural population with centralized water supply.

The tasks under discussion will have to be carried out on the basis of the utilization of the latest achievements of science and the construction of technically improved land reclamation systems which are reliable in operation. In land reclamation and hydrotechnical construction there will be extensive dissemination of progressive industrial technologies with the application of large blocks, fully prefabricated pumping stations, various polymer materials and continuous-action construction machines.

Successful implementation of what has been earmarked will make it possible to solve special-purpose comprehensive programs for increasing the production of farming products.

The gross yield of grain on reclaimed land is to be increased to 7.4 million tons by 1990 and 10.5 million by the year 2000. By the end of the 12th Five-Year Plan it is intended to complete the creation of zones for guaranteed production of vegetables and early potatoes around large cities and industrial centers on irrigated land.

One of the key tasks of the forthcoming period is to sharply increase the production of feeds on reclaimed land. In the next few years it is intended to complete the creation of a stable feed base at large animal husbandry complexes so as to more fully provide the livestock with coarse and juicy feeds. The output of feeds from reclaimed land should reach 28.7 million tons of feed units by 1990 and 44.7 million tons by the year 2000.

The planned volumes of land reclamation construction will make it possible by the year 2000 as compared to 1983 to increase the production of grain from improved lands 2.3-fold, feeds--2.7-fold and vegetables--1.8-fold. The value of the gross output from farming on reclaimed land will amount to 9.4 billion

rubles, a threefold increase over the level that has been achieved. The proportion of farming products from capitally improved land will reach 31 percent as compared to 15 percent at the present time.

For successful fulfillment of the earmarked land reclamation program and increased effectiveness of the utilization of restored land it is necessary to resolve a number of problems. The most important among them is reconstruction of irrigation and drainage systems. One-third of the irrigated land and one-fifth of the drained land in the republic require capital repair in order to improve them. A considerable proportion of the land reclamation systems are in need of technical re-equipment.

Acceleration of the rates of scientific and technical progress in land reclamation construction is closely related to the creation and extensive introduction of improved irrigation equipment, new construction materials, powerful earth-moving mechanisms and progressive construction technologies. It is intended to considerably increase the output of the wide-grasp Fregat sprinklers which have proved themselves and to supply land reclamation organizations with powerful tractors, multipurpose machines and other technical equipment, and the farms--with special machines for conducting agricultural work on reclaimed land.

In order to increase the effectiveness of capital investments and the responsibility of the client and the contracting organizations for the assimilation of capacities that have been introduced, it is intended to provide for comprehensive construction on reclaimed land, including agricultural build-up, the construction of roads, and also prompt introduction of housing and facilities for cultural and domestic purposes.

In order to further increase the productivity of reclaimed land and achieve the goals earmarked in the program, it is necessary to improve the interrelations between agricultural and water management agencies, Sel'khoztekhnika and Sel'khozkhimiya organizations, farms and operations services. Therefore the CPSU Central Committee and the USSR Council of Ministers recognized the expediency, on the basis of increasing the economic and moral responsibility, of establishing clear-cut contractual commitments of kolkhozes and sovkhozes, water management organizations, operations services and rayon agroindustrial associations for highly productive utilization of irrigated and drained land. It was also recognized as necessary under the 12th Five-Year Plan to transfer intrafarm irrigation, drainage and collector-drainage networks and structures from the books of the kolkhozes and sovkhozes (with their agreement) to the books of water management operations organizations. Then the expenditures for the maintenance and repair of these facilities will be covered through funds from the state budget (30 percent) and from the circulating capital of the farms (70 percent).

All this is directed toward further improvement of the operations service and the inclusion of its lower levels in the RAPO. The wages of both the operations workers and the farm workers should be made dependent on the final result--the yield from the reclaimed land.

The implementation of the earmarked program for irrigation will require interbasin distribution of water resources. It is intended to redistribute the water from northern rivers to the Volga and to accelerate the work on the construction of the Volga-Don, Volga-Chogray and Rostov-Krasnodar canals.

The state is directing immense amounts of money for the development of land reclamation. The effectiveness of its utilization is directly dependent on scientific support for the planned measures. Unfortunately, science is greatly indebted to practical workers regarding many crucial problems in the development of land reclamation work.

It will be necessary to improve the work of scientific institutions for investigating problems of increasing the productivity and the stability of farming under the conditions of irrigation and drainage with respect to various natural and climatic zones. Attention must be given to questions of the most rapid introduction of progressive methods of irrigation, the creation of machines and equipment which provide for extensive application of energy-saving and resource-saving technologies, and the creation of methods for comprehensive regulation of the water and salt conditions in the soil.

In order to successfully carry out the tasks set by the October Plenum, it is necessary to improve the work of selection workers as well. Up to this point we do not have any modern, highly productive strains and hybrids of corn and wheat for cultivation on irrigated land which also meet the requirements of industrial technology.

Eliminating the shortcomings more rapidly and utilizing land and water resources more efficiently--such is the requirement of the plenum, which is directed toward increasing the effectiveness of capital investments in land reclamation.

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LAND RECLAMATION AND WATER MANAGEMENT

RSFSR COUNCIL OF MINISTERS DISCUSSES RECLAMATION PROGRAMS

Moscow SOVETSKAYA ROSSIYA in Russian 20 Nov 84 p 1

[Article: "In the RSFSR Council of Ministers"]

[Text] There was a meeting of the RSFSR Council of Ministers on 19 November. In light of the decisions of the October (1984) Plenum of the CPSU Central Committee they considered the question of the long-term program for developing land reclamation and increasing the effectiveness of the utilization of reclaimed land in the RSFSR in order to steadily increase the food supply.

It was noted that as a result of the consistent implementation of the decisions of the May (1986) Plenum of the CPSU Central Committee, a large amount of work had been done in the republic for extensive development of land reclamation. During this period 37 billion rubles have been invested in land reclamation and agricultural assimilation of this land. The areas of reclaimed land have increased threefold, and technical crop work has been conducted on 18 million hectares. Occupying 4.6 percent of the agricultural land, this land produces more than 14 percent of the gross agricultural products, all of the rights, 70 percent of the vegetables and one-fifth of the root crops.

But the possibilities of land reclamation in the republic are not being fully utilized. On many kolkhozes and sovkhoses the yields of agricultural crops are still low, industrial technologies and highly productive strains are being introduced slowly, mineral fertilizers are not being utilized effectively enough, and irrigation is being carried out unsatisfactorily.

The decree that was adopted regarding this question envisions increasing the area of irrigated land in the republic to 10.3 million hectares by the year 2,000 and drained land--to 8.8 million hectares, and providing for the production of up to 10 million tons of grain and up to 44.2 million tons of feed units on this land.

At the meeting they discussed the drafts of the State Plan for the Economic and Social Development of the RSFSR and the State Budget of the RSFSR for 1985.

The RSFSR Council of Ministers unanimously and fully approved and accepted for unwavering guidance and execution the decree of the CPSU Central Committee concerning the drafts of the State Plan for the Economic and Social Development of the USSR and the State Budget of the USSR for 1985, and the instructions and conclusions contained in the speech of General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet K. U. Chernenko at the meeting of the Politburo of the CPSU Central Committee, and it made it incumbent on the ministries and departments of the RSFSR, the councils of ministers of the autonomous republics and the ispolkoms of the soviets of people's deputies to use these as a basis for their activity in providing for further economic and social development of the republic.

The drafts that were submitted for 1985 envision higher growth rates of the national economy in terms of the most important economic indicators than the average achieved during past years of the current five-year plan. As compared to 1984 the national income in the republic will increase by 4 percent, the volume of industrial production--by 3.8 percent, and the productivity of public labor--by 4.2 percent. The entire increase in national income will be achieved as the result of increased productivity of public labor. Measures are envisioned for further advancement of public well-being and the development of housing-domestic and sociocultural construction. Special attention is being devoted to questions of increasing the production of consumer goods, improving their quality and updating their assortment, as well as further expanding the sphere of services.

Taking the discussion into account, the RSFSR Council of Ministers basically approved the drafts of the State Plan for the Economic and Social Development of the RSFSR and the State Budget of the RSFSR for 1985 and adopted a decision to bring up the aforementioned drafts for the consideration of the regular session of the republic (supreme soviet).

11772

CSO: 1824/198

LAND RECLAMATION AND WATER MANAGEMENT

RSFSR LAND RECLAMATION WORK DESCRIBED

Moscow IZVESTIYA in Russian 7 Apr 84 p 2

[Article by F. Seleznev: "The Reclaimed Fields of Russia: How To Increase Their Return?"]

[Text] During the years that have passed since the May (1966) Plenum of the CPSU Central Committee the reclaimed fields of the Russian Federation have increased threefold and now amount to 10 million hectares. And although the proportion of this land is not great--only 4.5 percent--they produce about 15 percent of the crop-growing products. It would seem that the effectiveness of the reclaimed hectare is quite significant. But still it is only one-third to one-half what was intended in the plans.

How does one increase the return from the renewed hectare?

Our correspondent, F. Seleznev, asked this question of the managers of soviet and water management agencies of several krays and oblasts where a good deal of valuable experience has been accumulated in this and land reclamation has actually become a mighty means of intensifying agriculture.

"Most of the land in our Stavropol Kray is in a critically arid zone where shortages of moisture in the soil have frequently led to a sharp reduction of the yield," says I. Taranov, chairman of the ispolkom of the kray soviet of people's deputies. There have been years when even drinking water has had to be shipped into population points of this zone over tens and hundreds of kilometers.

But now such man-made rivers as the Bol'shoy Stavropol'skiy Canal have been stretched across the steppe expanses. Large water reservoirs have been created. Numerous flooding and irrigation systems are working for the crop. The overall area of irrigated land has now reached 410,000 hectares.

Along with the introduction of new irrigated land, land reclamation workers in conjunction with the kolkhozes and sovkhozes are carrying out comprehensive

assimilation of it--they are constructing housing, industrial and cultural-domestic facilities, and roads.

It is also important that a real, intelligent master has appeared on the reclaimed hectare in the form of cost-accounting [khozraschet] brigades and teams that work under a collective contract. Last year 86 percent of the irrigated land was assigned to them. This year all the rest of the brigades and teams have been changed over to the collective contract. They now include irrigation workers and sprinkling machine operators from subdivisions of the operations service whose labor is also paid for depending on the final result. And these personnel are selected and trained in good time--a year before the introduction of the irrigated areas.

Correct crop rotations have been assimilated on the irrigated land of practically all of the farms. Preference has been given to the intensive type of feed crops which are most responsible to irrigation: alfalfa, corn and soybeans.

The great potential capabilities of the irrigated hectare are convincingly shown by the cost-accounting team of Vladimir Makarov from the Put' k Kommunizmu Kolkhoz in Stepnovskiy Rayon. Last year it harvested an average of 157 quintals of feed units from each of 1,211 hectares. And the yield of green mass of alfalfa amounted to 895 quintals, and corn for silage--632 quintals. There have never been such large yields on Stavropol land before. Makarov's team has become a unique standard for us, and his work experience has found numerous followers.

Of course in the kray as a whole the indicators of the average productivity on irrigated land are far from being this high. We are especially concerned about the low yields of vegetable crops. But there has been an overall increase in the productivity. While under the 9th Five-Year Plan each irrigated hectare produced an average of 39.3 quintals of feed units, and under the 10th--it was 57.2, during the 3 years of the 11th Five-Year Plan it has been 63.2 quintals per hectare, including 67.4 quintals last year.

The expansion of the area of reclaimed land, the increased return from the irrigated hectare, and the overall advancement of the art of farming have contributed to increasing the productivity of farming and animal husbandry. Kolkhozes and sovkhoses of the kray have begun to regularly fulfill the plans for the sale of products to the state. In particular, the kray has successfully, with a little bit extra, fulfilled the assignments of the three five-year plans for the procurements of grain, potatoes, cattle and poultry, meat, eggs and wool.

Of course we have not reached the limit. Land reclamation workers along with farmers of the kray have set a task for themselves: even in the next few years to increase the productivity of the irrigated hectare to 80 quintals of feed units, and in the future to reach 100 quintals and thus to respond in deed to the party summons: to utilize more effectively the economic potential that has been created in rural areas.

"I have been working in agriculture for many years," says N. Kudryashova, the chief of the Moscow Oblast Production Administration for Land Reclamation and Water Management and a Hero of Socialist Labor. I have also worked in the rayon where the reclaimed land occupied a large proportion and essentially determined the amount of the harvest and the gross yield of agricultural crops. And I am deeply convinced that under conditions in which many complicated and costly land reclamation systems have already been constructed (in the oblast as a whole we have introduced almost 350,000 hectares of drained and irrigated land), prompt repair of them, renovation and improvement of operation should be placed in the foreground.

"I say this because we still have not overcome a certain underestimation of this work both on the part of land reclamation workers and on the part of managers of kolkhozes and sovkhozes. Many of them continue to be especially stubborn only about the construction of more and more new facilities, and the organization of more effective utilization and repair of systems that have already been created recedes into the background. This is essentially the position that is held by new agencies and machine builders. Each year we receive a good deal of new technical equipment from them, but it is mainly construction equipment. As for the set of machines and equipment for repairing land reclamation systems, we have not had any and we still have none."

In order to eliminate these shortcomings we have taken a number of measures in our oblast which are directed to improving the forms of management and organization of the repair and operations service. Unified rayon and interrayon associations for land reclamation and water management have been created and are in operation. Their duties include technical service of reclamation systems, and repair and maintenance of costly engineering facilities. These associations are included as constituent parts of the corresponding RAPO's. Now the farm manager does business with one, more reliable water management organization.

Favorable conditions have now been created for centralization of the funds of the partners in the APK for conducting capital and current repair. The funds coming in to special accounts of the RAPO make it possible to conduct this work more actively.

Mechanized teams of water management organizations have recommended themselves well for providing comprehensive technical service for land reclamation systems and the intrafarm network. They have accepted 90 percent of the reclaimed land for technical service.

We have also managed to make essential adjustments in the planning of capital investments: to increase allocations for renovation of previously constructed systems and to conduct technical work on crops, which is already beginning to have an effect on the improvement of the reclamation condition of the flooded lands, and this means on the harvest as well.

Thus last year the average yield of vegetable crops which, as a rule, are raised on irrigated land, amounted to 408 quintals per hectare in the oblast as whole, and the overall sale of them to the state reached 798,000 tons. And

the output of all products from each hectares of irrigated land in monetary terms amounted to 841 rubles.

Now the efforts of our land reclamation workers are directed toward preparing the system as well as possible for the field work season. The repair of irrigation equipment and power pumping equipment is in full swing, and the sprinkler operators are being trained. In a word, everything possible is being done for successful fulfillment of the high socialist commitments that have been adopted by land reclamation workers and all farmers of the Moscow area for this year and until the end of the 5-year plan.

"The farmers of our oblast have no greater concern than the one discussed in a letter to IZVESTIYA by the deputies of the Kroshinskiy Rural Soviet in Belorussia--to protect the land and to utilize it more effectively," thinks V. Nikitin, chairman of the ispolkom of the Tyumen Oblast soviet of people's deputies.

"We have certain concrete tasks for bringing new land into circulation and improving old plowed land, primarily as a result of expanding technical crop work."

To do this it was necessary to motivate the people, to find effective organizational and technical ways of solving the problem that was set, and to create the necessary material and technical base. We had no great amount of experience at that time and we could not count on receiving additional technical equipment for these purposes from outside. All hopes lay in internal reserves.

In the interests of the matter we decided to combine forces and means of land reclamation workers, kolkhozes and sovkhoses into a unified striking force: we created large joint land reclamation detachments for year-around operation. This provided a mutual advantage. The land reclamation workers felt their direct participation in the production of agricultural products. The volume of their work began to increase. And the kolkhozes and sovkhoses began to receive more irrigated land and, as a result of this, to increase the gross yields of grain and feed crops.

Sel'khozkhimiya, Sel'khoztekhnika, subdivisions of construction organizations and a number of industrial enterprises with their powerful technical equipment also participated. Forestry services were given assignments for gathering less valuable timber, as were the fuel and local industrial services and other organizations that are capable of carrying out this work.

The management of all the work for assimilating and planting crops on the land was made the responsibility of the managers of the kolkhozes and sovkhoses. In order to motivate the farms more fully we began to distribute tractors, machines, mineral fertilizers, capital investments and other resources and to take into account the attitude of each farm toward the introduction of land. The farm that introduced the most of it received more resources.

Certain other measures were undertaken which made it possible during 3 years of the five-year plan to introduce 150,000 hectares of new and renewed land.

And the expenditures on irrigating them, as a rule, are recouped in 1 or 2 years.

And this exerted a great influence on successful fulfillment and overfulfillment of the assignments of the five-year plan for the sale to the state of all agricultural products. For example, the amount of grain sold in excess of the plan was 177,000 tons, potatoes--194,000, vegetables--34,000, milk--66,000, meat--3,000 tons and eggs--116 million.

Relying on the first experience in large-scale irrigation of land, we are counting on increasing the area of arable land by another 20 percent in the next few years and bringing it up to 2 million hectares.

As we can see, the comprehensive approach brings success when, along with the construction of land reclamation systems, all problems of assimilating irrigated and drained land are solved, right down to the creation of necessary housing and cultural-domestic conditions for the people.

Recently at an expanded meeting of the RSFSR Council of Ministers when discussing the question, "On Measures for Fulfilling State Plans for Land Reclamation, Increasing the Effectiveness of the Utilization of Improved Land and Tasks for the Development of a Long-Term Program of Land Reclamation Measures in the RSFSR," the experience of the aforementioned oblasts and krays was given support.

11772

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LAND RECLAMATION AND WATER MANAGEMENT

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ELIMINATION OF SHORTCOMINGS IN RECLAMATION WORK URGED

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 12, Dec 84 pp 3-10

/Article: "The Most Important Intensification Link"/

/Text/ The decisions of the October (1984) Plenum of the CPSU Central Committee and the propositions and conclusions contained in Comrade K. U. Chernenko's profound and brilliant speech were a vivid, new evidence of the constant concern of the Communist Party of the Soviet Union for the further rise in the people's well-being and the might of our homeland. They were received by all the Soviet people as a guide to the practical activity of all party, Soviet and economic bodies, public organizations and labor collectives concerning the implementation of the party's economic strategy developed at the 26th CPSU Congress. The agrarian policy aimed at the further strengthening of the alliance of the working class and the peasantry, at the satisfaction of the country's needs for foodstuffs and raw materials and at the attainment of immediate social and economic goals and affecting vast spheres of material production is its major component. This policy was developed significantly at the May (1982) Plenum of the CPSU Central Committee, which approved the country's Food Program. Realizing it systematically, the CPSU solved a wide range of problems concerning the development of the agroindustrial complex.

Only 2 years have passed, but a great deal has been done during this short period. As Comrade K. U. Chernenko noted in his speech at the October (1984) Plenum of the CPSU Central Committee, the highest volume of agricultural output throughout the country's history was obtained in 1983. This year under extremely unfavorable weather conditions, with the harshest drought in many regions, rural workers are also waging a truly heroic fight so that the results are not lower. In 1983-1984 total agricultural output will be worth approximately 20 billion rubles more than during the preceding 2 years.

Nevertheless, the situation in a number of areas in agriculture remains difficult. As Comrade K. U. Chernenko points out, problems arising on the path of the intensive development of agriculture and its transformation into a highly developed economic sector require "the most efficient, new solutions. It is not a question of a shift in the emphasis in our directives, but of a search for truly innovative and creative approaches." Large-scale land reclamation occupies a special place among them.

Only through an expansion of the scale of reclamation construction and a decisive increase in the yield of existing irrigated and drained land is it possible to ensure a stable growth of food production. This is the main link, which largely determines the successful fulfillment of the Food Program. That is why at its October Plenum the Central Committee of the party thoroughly discussed the plan for large-scale constructive work--the long-term plan for reclamation and for an increase in the efficiency of utilization of reclaimed land for the purpose of a stable buildup of the country's food resources.

As is well known, in our country large-scale work on land reclamation began after the May (1966) Plenum of the CPSU Central Committee. During the following years the total volume of capital investments of the state and kolkhozes exceeded 98 billion rubles and, if budgetary allocations for the repair and operation of irrigation and drainage network are taken into account, the total amount of expenditures was 122 billion rubles. As a result, areas of irrigated land increased from 9.8 million to 19 million hectares and of drained land, from 7.5 million to 14 million hectares.

Reclamation has encompassed all the major agricultural regions in the country. Along with old irrigation regions--Central Asia, the Transcaucasus and South Kazakhstan--significant operations have been performed in the North Caucasus, the Volga Area, South Ukraine and Moldavia. Land is systematically drained in the nonchernozem zone of the RSFSR, in Ukrainian and Belorussian Polesye and in Soviet Baltic republics.

All this has become possible owing to the strengthening of the material and technical base of water resources construction. Whereas previously the fixed capital of the system of the USSR Ministry of Land Reclamation and Water Resources totaled 4.6 billion rubles, now, 37 billion rubles, increasing eightfold. For this not only financial resources have been allocated, but the appropriate sectors of the national economy have also been strengthened. Capacities for the production of the necessary reclamation machinery, equipment and materials have been expanded at metallurgical, machine building, shipbuilding, chemical and other enterprises.

Reclamation specialists are now equipped with tens of thousands of excavators, bulldozers, scrapers, cranes and other special machinery. Large plants for the production of reinforced concrete products, building structures and pipes and for the repair of equipment have been put into operation here. In the last 17 years the number of reclamation specialists has tripled, now totaling 1.7 million.

The scientific and technical level of reclamation construction has risen. Whereas previously only 2 percent of the canals and irrigation systems were laid with facing in concrete flumes and pipelines, now, 92 percent. In drainage the share of closed drainage was 26 percent and now, 79 percent. The area of land watered by sprinkling has increased from 500,000 to 7 million hectares.

The expansion of the scale of reclamation has made it possible to increase crop output on account of irrigated and drained land. Output worth 16.3 billion rubles was produced on this land last year, as compared to 6.2 billion

rubles in 1965. Irrigated and drained land, occupying 11 percent of the area of arable land and perennial plantings, now gives 33 percent of the total crop output.

The entire volume of raw cotton and rice, three-fourths of the vegetables, about one-half of the fruits and grapes and two-fifths of the entire corn grain are now produced on reclaimed land. Owing to the construction of major engineering rice systems rice production increased from 580,000 to 2.6 million tons. Corn grain output rose from 0.5 million to 4.5 million tons. Cotton growing is developing stably. In the last few years the gross output of raw cotton has totaled more than 9 million tons, as compared to 5.7 million tons in 1965. At the same time, the production of fine-fiber cotton has almost tripled. Reclamation has made it possible to create stable conditions for a steady increase in feed production in many regions. Last year such land gave about 37 billion feed units, or almost six times more than in 1965.

It should be especially noted that during the current five-year plan, as compared with the previous one, the entire increase in crop output, essentially, has been obtained on account of reclaimed land.

At the same time, we must not fail to see both the shortcomings and potentials in water resources construction. Especially in the utilization of the reclamation resources that have already been created. This concerns primarily the fact that the appropriate organizations of many Union republics and oblasts, requesting allocations for reclamation, do not take proper measures for their efficient utilization. More than 2 billion rubles of capital investments have been underutilized in the last 8 years alone.

Funds have been utilized in an especially unsatisfactory manner in Pskov, Smolensk, Rostov, Nikolayev and Chimkent oblasts, the Georgian SSR and the Moldavian SSR.

Plans for the commissioning of capacities have not been fulfilled systematically in a number of places. During the 10th Five-Year Plan and 3 years of the current five-year plan hundreds of thousands of hectares of irrigated and drained land have not been put to use and assignments for the watering of pastures have not been fulfilled.

Water resources organizations annually do not ensure the fulfillment of the plan for capital investments and the commissioning of fixed capital even in many key construction projects, owing to which the dates of completion of construction are postponed many times. For example, the dates of the commissioning of projects of the first stage of land irrigation in the Kyzylkum Steppe in Chimkent Oblast, the Kazakh SSR, under construction since 1965 have been postponed seven times. Instead of 1976 promises are now made to complete the construction of this system only in 1985.

As noted at the October (1984) Plenum of the CPSU Central Committee, the USSR Ministry of Land Reclamation and Water Resources must decisively put an end to the practice in which there is a lag in the construction of projects connected with overall land development. Plans for production and nonproduction construction on sovkhoses developing reclaimed land are not fulfilled from one 5-year period to another. Nor do recruited contracting construction organizations work satisfactorily at these projects.

Many water resources organizations give preference to the performance of so-called "profitable" (excavation) operations and greatly delay the construction of projects connected with the agricultural development of irrigated and drained land. Owing to this, major investments in the construction of reservoirs, canals and pumping stations do not promptly give the proper return. In the last 3 years alone in RSFSR oblasts only 52 percent of the capital investments for sovkhoz construction have been utilized and in Tajikistan, 50 percent. In water resources organizations there is a large volume of incomplete construction and the above-standard stock of uninstalled equipment is increasing. Moreover, in a number of places equipment that has already been assembled is not utilized, or is regarded as delivered unnecessarily.

Nor is the state of affairs with the utilization of existing irrigated and drained land satisfactory. The fight for obtaining the planned yield has not yet become the main task in the activity of many economic and water resources organizations, kolkhozes and sovkhozes. In a number of places in productivity irrigated land is at the level of nonirrigated land.

On the average, in the last 3 years of the current five-year plan grain harvests on irrigated land have not exceeded 20 quintals per hectare on many farms, dozens of kolkhozes and sovkhozes have harvested less than 150 quintals of vegetables per hectare and the yield of perennial grass has been low in a large group of farms. In Central Asia almost one-fifth of the kolkhozes and sovkhozes harvest less than 20 quintals of raw cotton per hectare, one-fourth of the farms grow grain harvests of up to 30 quintals and the vegetable harvest on every second farm totals less than 150 quintals per hectare.

As noted at the Plenum of the Central Committee, the low yield, as a rule, is the result of mismanagement, a slow introduction of industrial technologies and highly productive varieties and hybrids of agricultural crops, a poor utilization of mineral fertilizers and equipment and an unsatisfactory organization of watering on irrigated land.

The indicated figures show that this most important area of agricultural production is not handled with proper responsibility everywhere in the localities.

For example, let us take such a major region as the Volga Area, whose farming especially frequently suffers from the severest droughts. After the May (1966) Plenum of the Central Committee significant work on land reclamation was begun in Saratov Oblast and the irrigation area increased from 32,000 to 500,000 hectares. As a result, the oblast's farms are now provided, even during very droughty years, with locally produced coarse and succulent feed. However, the planned yield has not yet been attained even here.

In neighboring Volgograd Oblast from the very beginning proper interest in this important matter has not been shown. Plans for reclamation construction have not been fulfilled systematically. The commissioning of irrigation systems has been delayed. With a standard of 5 or 6 years, for example, the Gorodishche Irrigation System has been under construction since 1971, the Greater Volgograd Irrigation System, since 1973 and the Pallasovka Irrigation System, since 1967. The area of irrigated land in the oblast has increased from

35,000 to 186,000 hectares. At the Greater Volgograd Irrigation System the yield of grain crops, instead of 38 quintals per hectare according to the plan, is 19, of corn for silage, 400 and 160 and of perennial grass for hay, 100 and 69 respectively. It is not accidental that during droughty years kolkhozes and sovkhozes in this oblast must procure coarse feed not only from their neighbors, but also from areas located at a distance of thousands of kilometers.

On farms in Crimean Oblast in the last 3 years, on the average, the yield of grain crops has reached 46 quintals per hectare, of rice, 49, of corn for grain, 50, of soybeans, 17, of vegetables, 193, of fodder root crops, 715 and of perennial grass for hay, 77. Owing to systematic work, irrigated land, occupying 18 percent of the areas, gives almost 60 percent of the total crop output here. However, this is not the case in all oblasts and farms in South Ukraine. In Nikolayev, Odessa, Zaporozhye and Kherson oblasts land is reclaimed without the proper activity. Harvests on irrigated land are still not high here.

By increasing the productivity of existing and putting to use new irrigated land, crop output has risen 1.5- to 2-fold in such oblasts in the Uzbek SSR as Bukhara, Kashka-Darya, Samarkand and Syr-Darya, but in Namangan, Fergana and Khorezm oblasts and in the Kara-Kalpak ASSR the rates of increase in output have been much lower.

A significant growth in the production of crop and livestock products on the basis of systematic work on draining land and equipping farms has been attained in Lithuania, Latvia and Estonia.

For many years work on land reclamation has also been carried out in the non-chernozem zone of the Russian Federation. Substantial capital investments and material resources are allocated for these purposes. However, the return on this is not the same everywhere. For example, in Vologda Oblast, areas of drained land have increased from 12,000 to 150,000 hectares and their productivity has also risen considerably. In output per hectare of drained land in a short period the oblast has reached the level of Moscow and Leningrad oblasts, where reclamation work has been carried out for a long time. But there is a different picture in Kalinin Oblast: Plans for putting to use irrigated and drained land are not fulfilled year after year and 584,000 hectares of hayfields and pastures are overgrown with forests and shrubs, but work on their cultivation is not carried out in sufficient volumes. With the significant growth of capital investments and of deliveries of equipment and mineral fertilizers, essentially, crop output does not increase here.

Many such comparisons can be cited. They indicate that, where there is a wise approach to the matter of land reclamation, the allocated funds are utilized effectively, internal resources are mobilized and this work is carried out on a scientific basis and competently, high results are attained. Where proper organizational work is not ensured, mismanagement is tolerated and initiative is absent, positive results cannot be expected. These shortcomings and missed opportunities cost the state a great deal.

Life demands that collectives of water resources subdivisions greatly improve labor efficiency and become more reliable partners of farmers. It is important to put in the forefront not the chase after profitable, expensive operations, but primarily the improvement in areas that can give a high end result with minimal expenditures of time and money.

Serious attention must be paid to the quality of the areas handed over. The situation is such that reclamation specialists are clients, executors of work and examiners simultaneously. That is why, obviously, there are frequent cases of tolerance for defects. In connection with this it is necessary to intensify control, to put a stop to cases of an unscrupulous attitude toward work and to increase builders' responsibility for the quality of commissioned systems.

Great responsibility for the return on reclamation and for the recovery of funds is placed on sovkhoz and kolkhoz workers and on the maintenance system. However, the attitude toward the improved hectare is by no means proprietary everywhere. In a number of regions in Kazakhstan, owing to the defects tolerated by builders in the construction of irrigation systems and their poor maintenance, part of the irrigated wedge is essentially idle. Hundreds of thousands of hectares of reclaimed land were utilized with a small return throughout the country last year. At times farms do not manifest concern for an increase in its fertility.

Agroindustrial associations and agricultural and water resources bodies must do their utmost to significantly increase the efficiency of utilization of the transformed field.

A successful reclamation of land and the potential of its productivity largely depend on the activity and skill of personnel. Many true experts at their jobs now work in water resources organizations and on kolkhozes and sovkhozes. At the same time, not all sections are provided with well-trained workers with initiative and in a number of places, as before, there is a big turnover of medium-link specialists: In 3 years more than one-third of the trust managers and column chiefs have been replaced and there is a shortage of mass trade workers. In connection with this it is necessary to intensify the attention to problems of training and retaining personnel. We must put into operation more housing with all modern conveniences for reclamation specialists, provide public services and amenities in settlements and improve cultural and general services for their residents. People's working conditions demand constant concern. Now more than one-third of the people are employed in manual jobs and the level of mechanization of technological processes rises slowly.

Land reclamation is one of the decisive links in the development of agricultural production. The labor of land transformers is not easy. The renovated field requires big expenditures and everything must be done so that it pays people for their concern with generous harvests.

The Central Committee of the party thoroughly examined the entire range of problems connected with reclamation--the most important factor in the intensification of agriculture. This was reflected in the long-term program and the decree of the October (1984) Plenum of the CPSU Central Committee.

Plans are made to ensure the further increase in the production of grain on irrigated and drained land and to raise its volumes on it to 32.3 million tons in 1990 and to 55 or 60 million tons by the year 2000, including corn, to 18 or 20 million tons.

Feed production is to be increased significantly. On reclaimed land it should be brought up to 80 million tons in 1990 (as compared to an average of 33 million tons annually during the current five-year plan) and up to 115 or 125 million tons (in terms of feed units) by the year 2000. An expansion of the sowing of lucerne on irrigated land will make it possible to ensure an increase in the balance of feed in terms of protein.

By 1990 the production of vegetables and early potatoes will increase to the volumes necessary for a full satisfaction of the needs of the population in big cities and industrial centers. The output of grapes and fruit and berry crops is to be increased on irrigated land in the North Caucasus, the Ukraine, Moldavia and the republics of Central Asia and the Transcaucasus. The production of raw cotton is to grow through a rise in the yield and the further overall development of large irrigation areas in Central Asia, Kazakhstan and Azerbaijan. The establishment of specialized farms for raising seeds of perennial grass, hybrid corn, sugar beets and soybeans will continue.

The outlined indicators of volumes of agricultural output are realistic. In order to attain them, plans are made to increase the area of irrigated land in the country to 30 or 32 million hectares and of drained land, to 19 or 21 million hectares by the year 2000. The 12th Five-Year Plan should become an important stage. During this period it is necessary to put to use about 7 million hectares of new irrigated and drained land, to improve the condition of existing irrigation systems and to carry out amelioration work on large areas. A total of 50.4 billion rubles of capital investments will be allocated for these purposes, which is 6 billion rubles more than their expected utilization during the current five-year plan.

The development of new land is closely connected with the water resources of a region. As is well known, in the south there is a great deal of heat and sun and the harvest is created not so much by land as by water. For example, in Central Asia and in South Kazakhstan there are approximately 30 million hectares of land suitable for watering, but for now a little more than 8 million hectares are irrigated. How to water the rest? The following question arises right now: What reserves of irrigation moisture can be found in the Central Asian republics themselves?

The fulfillment of land irrigation assignments will require a territorial redistribution of water resources. The task of diverting water is quite complex. The scale, period and ways of its accomplishment should be carefully weighed so that, while obtaining the greatest effect in the zones of utilization of diverted water, unfavorable consequences in the zones of its withdrawal are reduced to a minimum.

With due regard for this the program envisages major operations connected with conveying part of the runoff of northern rivers to the Volga in an annual volume of 5.8 cubic km, as well as with building Volga-Don, Rostov-

Krasnodar and Volga-Chogray canals for conveying this water from the Volga to the basins of Don, Kuban and Terek rivers. The construction of these projects will make it possible to establish large, new irrigation tracts in the Lower Volga Area and in the North Caucasus. To solve the problem of water supply for South Ukraine and Moldavia, plans are made to complete the construction of the hydroengineering complex in the Dneprovsko-Bug Estuary and to begin the construction of the Duna-Dnepr Water Resources Complex and of the Dunay-Nisporeny Canal. Planning work for the purpose of diverting part of the runoff of Siberian waters to the regions of the Urals, West Siberia, Central Asia and Kazakhstan is being carried out and will be completed.

The scale of reclamation work envisaged in the long-term program is very impressive. It will require substantial material resources and, what is most important, considerable efforts and extensive organizational work by party, Soviet and economic bodies.

Measures to improve the utilization of the reclamation resources that have already been created and to increase the yield of fields occupy the central place in the program. Everything must be done so that every area of irrigated and drained land is utilized in a highly efficient manner in agricultural production. Unfortunately, however, owing to the malfunction of the intrafarm network and pumping-power equipment, lack of a layout and shortcomings in production organization, hundreds of thousands of hectares of irrigated land have not been utilized or watered in a number of places in the last few years.

To place every irrigated and drained hectare under supervision and to ensure a trouble-free operation of reclamation systems--this is one of the urgent concerns of councils of agroindustrial associations. We must avoid a lack of personal responsibility in this important matter, support initiative and increase the responsibility for an efficient utilization of this true gold stock of land.

In a number of regions the renovated field still gives a low yield and does not recover expenditures. This happens where there is a careless attitude toward its utilization. For example, on the Privolzh'ye Sovkhoz in Kuybyshev Oblast in the last 5 years areas of irrigated land have been expanded by almost 6,000 hectares and large-scale production and cultural-general construction has been carried out. Considerable funds have been spent on these purposes. However, owing to serious shortcomings in the organization of work and, at times, mismanagement, the planned yield of crops has not been attained.

The structure of sown areas needs to be improved. Very little irrigated land has been allocated for the sowing of corn for grain. On many farms low-productivity annual grass has unjustifiably occupied a big share of the area of irrigated land. Repeated, afterharvest, alternate and companion crops are not used sufficiently--their areas can be increased four- to fivefold. A fuller utilization of this potential will make it possible to significantly increase the production of feed and the output of hulled crops.

Science and advanced practice have demonstrated that on irrigated land it is possible to obtain more than 100 quintals of corn grain per hectare, 60 quintals of winter wheat per hectare, 600 quintals of vegetables per hectare and up to 200 quintals of lucerne hay per hectare. It is necessary to utilize all the factors in an increase in the yield and to do everything that is possible to attain these indicators. For the purpose of the further growth in the yield it will be necessary to accelerate the introduction of industrial technologies and the changeover to a programmed cultivation of agricultural crops.

An improvement in the state of reclamation resources is the most important task, whose accomplishment must not be postponed. A total of 5.5 million hectares of irrigated land now need major work on their qualitative improvement and 1.5 million hectares of drained land, amelioration work and the reconstruction of drainage systems.

The reclamation state of a significant part of the irrigated land in Central Asia and Astrakhan, Volgograd and a number of other oblasts is unsatisfactory. Taking into consideration that land is outfitted here and provided with water sources and farms are equipped with machinery and have experienced personnel, reclamation systems must be reconstructed without delay in these regions. This will make it possible to increase output with smaller capital expenditures.

In the country there are many fodder areas requiring a fundamental or superficial improvement. Therefore, the long-term program envisages a significant increase in the volumes of all types of amelioration operations.

The construction of drainage and irrigation systems for the establishment of a stable feed base at large animal husbandry complexes is another important direction in the strengthening of the feed base envisaged in the program. As the experience of advanced farms indicates, the organization of perennial irrigated areas around dairy and other farms makes it possible to produce feed balanced in terms of protein with the lowest expenditures and on this basis to raise the productivity of animals and to lower the production cost of milk and meat.

Big potentials lie in small-scale irrigation. With an efficient utilization of the local runoff and ground water it is possible to additionally irrigate many arable areas, meadows and hayfields. The experience in the construction of small ponds and reservoirs in ravines and irrigation plots in the North Caucasus, Kazakhstan, Azerbaijan and other republics and oblasts deserves to be popularized widely. Control over the allocation of fertile and, especially, reclaimed land for nonagricultural purposes will have to be stricter.

Specialists believe that, if the standard of farming is high, the production of 1 ton of raw cotton requires only 2,300 cubic meters of water, but now twice and on some farms four times as much is used. Why is the efficiency of irrigation water so low? However, another thing must also be kept in mind. Water not only helps to cultivate high harvests, but, when it is used improperly, it can do serious damage. The Malik Sovkhoz in Syr-Darya Oblast has experienced this recently. Infiltrating canals and the irrigation network, moisture has increasingly accumulated under soil, causing a rise in

internal water and the salinization of fields. Where salt appears, nothing grows any longer and 10,000 and sometimes even 20,000 cubic meters of water are used in the leaching of every hectare.

What follows from this? It follows that farms must have high-quality and reliable irrigation systems and highly efficient collector-drainage networks and canals must be coated with concrete. In brief, everything must be done to reduce water filtration. This is precisely how the Malik Sovkhoz acted. In order to save cotton fields from an excess of water, a set of reclamation operations and agrotechnical measures connected with them were carried out. This made it possible to more than double the yield of every irrigated hectare. On the average, the farm now obtains 34 to 36 quintals of raw cotton per hectare.

The reconstruction of the reclamation system made it possible, without the use of an additional water source, to increase the irrigation area. Whereas previously the Malik Canal irrigated 3,000 hectares in the region, now its water is sufficient for almost 11,000 hectares.

All irrigated farming regions have similar potentials for an efficient utilization of life giving arteries. It has been estimated that an increase in the efficiency of the intrafarm network and the implementation of the necessary reclamation regime will make it possible to save 8 to 10 billion cubic meters of water.

Measures for saving water resources are also necessary. Although our country is rich in them, this does not mean that they can be squandered. Last year losses of water from the places of its intake to consumer farms totaled 43 cubic km, or 21 percent. There are also big water losses on farms, especially in Central Asian republics. It is absolutely intolerable that irrigation water, passing from the water intake through canals, installations and pumping stations, runs uselessly owing to the inability of some workers to organize night irrigation, which often does damage to the harvest.

For the purpose of a more economical consumption of water and a reduction in the expenditures on its supply fundamental measures must be taken. It is necessary to decisively change over to water supply through faced canals and closed systems, to introduce more advanced watering methods, to give priority to sprinkling and drop irrigation and to raise the economic responsibility of users for water consumption.

The October (1984) Plenum of the Central Committee of the party developed a large-scale reclamation program. Comrade K. U. Chernenko, general secretary of the CPSU Central Committee, chairman of the Presidium of the USSR Supreme Soviet, noted the following in his speech at that plenum: "The heart of the matter lies in the qualitative aspect of work on land improvement. We have in mind the establishment of large zones of guaranteed production of agricultural products on an industrial basis, kinds of grain, feed and vegetable factories. Of course, this must be done with the use of modern engineering, especially automated, systems. Scientifically substantiated farming methods, better varieties and hybrids, advanced technologies and harvest programming must be applied primarily on renovated land."

The Plenum of the CPSU Central Committee made it incumbent upon the USSR Ministry of Land Reclamation and Water Resources, the USSR Ministry of Agriculture, the USSR Ministry of the Fruit and Vegetable Industry and party and Soviet bodies to take efficient measures to improve the entire matter of organization of water resources construction and to intensify the control over the fulfillment of the demands of the CPSU Central Committee for an increase in the effectiveness of capital investments, shortening of the periods of construction and mastering of production capacities and further concentration of the necessary resources on key construction projects. They were also instructed to ensure overall construction on reclaimed land, including agricultural outfitting, road construction and a prompt commissioning of housing, children's institutions and projects for cultural and general purposes, considering this an indispensable condition for an increase in the efficiency of utilization of funds invested in reclamation.

The Central Committee of the party expressed firm confidence that the implementation of the long-term land reclamation program would become a nationwide undertaking. Its fulfillment will contribute to a stable development of the agrarian sector of the economy and on this basis to the further rise in the well-being of the Soviet people.

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LAND RECLAMATION AND WATER MANAGEMENT

LAND RECLAMATION, WATER MANAGEMENT PROGRAM REVIEWED

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/Methodological advice for preparing discussions and speeches on materials of the October (1984) Plenum of the CPSU Central Committee: "Land Reclamation Program -- A National Concern"/

/Text/ The Plenum of the CPSU Central Committee has fully approved the conditions and conclusions contained in the speech by the General Secretary of the CPSU Central Committee Comrade K.U. Chernenko, concerning further development of the country's economy, the principal trends for intensifying agricultural production and raising the role played by land reclamation in steadily building up the food fund.

The long-term program for land reclamation and for raising the effectiveness of use of reclaimed lands during the 12th Five-Year Plan and for the period up to the year 2000 has been approved by the Politburo of the CPSU Central Committee and set forth in the report by member of the Politburo and chairman of the USSR Council of Ministers Comrade N.A. Tikhonov.

The Plenum expressed the firm confidence that the program will be accepted by the communists and all workers as a most important economic-political task for ensuring that the country's population is supplied with food products and, on this basis, for improving the well-being of the Soviet people. The Plenum of the CPSU Central Committee has pointed out the need for carrying out active organizational and mass political work aimed at successfully fulfilling the decisions handed down.

The principal results. It was noted during the Plenum of the CPSU Central Committee that the general development of the agroindustrial complex and its principal element -- agriculture -- and the consistent implementation of the country's Food Program are promoting a further strengthening of the country's economic potential. Over the past four five-year plans, that is, since 1965, approximately 740 billion rubles worth of capital investments were made available for the development of the agroindustrial complex. Since 1965 the fixed productive capital of public agriculture has increased by a factor of 4.5 and amounts to approximately 300 billion rubles. The power-worker ratio

has increased by a factor of 3.6 and fertilizer deliveries to the rural areas have increased by almost fourfold.

In carrying out its agrarian policies, the party attaches great importance to raising the stability of agricultural production. Here a decisive role is played by land reclamation. Our agriculture is being carried out under complicated climatic conditions: more than 60 percent of the arable land and approximately 70 percent of all agricultural land is located in arid regions and a considerable portion -- in regions of excessive moisture. Following the May (1966) Plenum of the CPSU Central Committee, which was dedicated to land reclamation, approximately 115 billion rubles worth of capital investments were made available for this work. Powerful aquicultural organizations possessing the required equipment were created. Over the past two decades, 118 large reservoirs were built throughout the country and dozens of canals, including such well known ones as the Karakum, North Crimean, Dnepr-Donbass, Great Stavropol and Saratov, were modernized, placed in operation or are presently under construction. The area of irrigated land has increased from 10 to 19 million hectares. All rice and cotton, three fourths of the vegetables and one half of the fruit and grapes are being cultivated under irrigation conditions.

The area of drained land has increased from seven to 14 million hectares or by twofold. Compared to the 1966-1970 period, grain production on reclaimed lands has increased by almost threefold during this current five-year plan. Last year the restored lands furnished almost six times more feed than was obtained in 1965. On the whole, field crop husbandry output from irrigated and drained lands increased from six billion rubles worth in 1965 to more than 16 billion rubles worth in 1983 and its proportion compared to the branch's overall output -- from 20 to 34 percent.

At the same time, it was noted during the Plenum that the measures carried out do not always ensure adequate stability for the development of farming and livestock husbandry. The rates of growth for the production of agricultural products are still not in keeping with the requirements.

New measures. The long-term program has as its goal that of raising land reclamation throughout the country to a qualitatively new level and of making full use of its potential. Among the chief trends associated with the program, the Plenum first of all singled out the highly effective use of all irrigated and drained lands, with each farm achieving its planned yields within the established periods.

Further, the program called for an expansion in the scales of aquicultural construction and an acceleration in the development of irrigated farming in the southern part of the country, where there is good land, adequate warmth and labor resources and where consequently the maximum effect can be achieved more rapidly. For the country as a whole, the areas of irrigated land are to be increased to 30-32 million hectares by the year 2000, that is, an increase by a factor of 1.6-1.7.

In the RSFSR, we have in mind the need for creating large zones for the commodity production of corn grain on irrigated lands in the north Caucasus and lower Volga regions and for continuing the organization of specialized farms

for the production of early and heat-loving vegetable and melon crops in Astrakhan and Volgograd oblasts. For the purpose of creating large zones for the guaranteed production of agricultural products, the plans call for the accelerated development of irrigation in the Ukraine and in Moldavia. Irrigation construction work is continuing in the republics of Central Asia, Kazakhstan, the Trans-Caucasus, Siberia and in the Far East.

The carrying out of the above plans will require large-scale measures associated with the territorial redistribution of water resources. The plans call for the completion of construction work on projects of the first stage of the diversion of a portion of the flow of northern rivers and lakes into the Volga Basin and on the canals to be used for transferring this water from the Volga to the basins of the Don, Kuban' and Terek rivers. In addition, construction work must be completed on the hydroengineering complex in the Dnepr-Bug Estuary and construction started on the aquicultural complex Danube-Dnepr and the Danube-Nisporeny Canal. Planned operations concerned with diverting a portion of the flow of Siberian rivers into regions of the Urals, western Siberia, Central Asia and Kazakhstan must also be completed.

In addition to these large-scale measures, the plans also call for an expansion of the irrigated tracts on farms by means of so-called light irrigation, the development of small ponds and reservoirs and the efficient use of local runoff and underground water.

The drainage of water-logged lands in the nonchernozem zone of the RSFSR, in the forest district of the Ukraine and Belorussia, the Baltic region, Siberia and the Far East is continuing. The plans call for the area of drained land to be increased to 19-21 million hectares by the end of the century, compared to only 14 million hectares in 1983.

On the whole, from 1983 until the end of the century, the area of restored lands will increase by a factor of 1.5-1.6, including a twofold increase in the RSFSR. In combination with the modernization of many areas reclaimed earlier, the liming of acid soils, the gypsuming of solonetz soils and other measures, this must double the yield of field crop husbandry products from restored lands. Almost one half of all of the country's farming output can be obtained regardless of fluctuations in the weather. In particular, the gross grain yield from reclaimed lands must increase from more than 20 million tons in 1983 to 32 million in 1990 and to 55-60 million tons in the year 2000. Of this amount, 18-20 million tons will be corn grain, compared to 4.5 million tons in 1983. The production of feed on these lands must increase from roughly 37 million tons in 1983 to approximately 80 million in 1990 and to not less than 115-125 million tons in the year 2000, in a conversion for feed units. The production of vegetables and early potatoes on irrigated and drained lands, even during the next five-year plan, must achieve the volumes required for completely satisfying the requirements for them of the populations of large cities and industrial centers.

Huge capital investments are being allocated for land reclamation. During the 12th Five-Year Plan alone, they will amount to more than 50 billion rubles. The placing in operation of each new irrigated hectare of land, including the expenditures required for developing it, costs an average of 5,000 rubles.

More efficient use must be made of the reclaimed lands -- both those already available and those newly placed in operation. Here we have very large reserves available. The planned yield is achieved only on one third of the irrigated land and quite often the yields from the irrigated lands are the same as those from non-irrigated lands. In a number of oblasts in the nonchernozem zone, the drained lands are being used in an ineffective manner and are producing very little return.

Such a situation cannot be tolerated. Comrade K.U. Chernenko has stated that we are investing considerable national funds in land reclamation and placing great hope in the outcome. Thus the Plenum has requested that more concern be displayed for introducing into operations on an extensive scale the experience of those leading farms which have exceeded their planned yields from reclaimed lands.

The task has been assigned of achieving timely and efficient carrying out of the entire complex of agrotechnical, technological and organizational measures, so as to ensure the highly intensive management of farming on reclaimed lands and strict adherence to the established order for supplying these lands with mineral fertilizers, other chemical materials as required, equipment and seed for highly productive varieties.

Just as with any other endeavor, in the final analysis everything is determined by the skill, diligence and conscientiousness displayed by the personnel -- leaders, specialists, rank and file manual workers and kolkhoz members. It is important for them to be interested, to the maximum possible degree, in achieving the best use of the reclaimed lands, to display initiative and a business-like attitude and to observe labor and technological discipline in a very strict manner. This is actively promoted by use of the collective contract, the job contract plus bonus wage system, intraorganizational accounting and efficient organization of the competition.

In conducting discussions in the agricultural collectives, the attention of the listeners should also be drawn to the fact that Plenum resolved to intensify economic and moral responsibility and interest on the part of the leaders and specialists and the labor collectives of agricultural and aquicultural enterprises in the final results of work carried out on the reclaimed lands. It is considered advisable to establish clear contractual obligations for the partners in connection with the use of these lands. This will make it possible to establish responsibility for the use of the irrigated and drained lands and thus raise their effectiveness considerably.

For the 12th Five-Year Plan, the decision has been made to transfer the intraorganizational irrigation, drainage and collector-drainage networks and installations from the balance of sovkhozes and kolkhozes (with their consent) to the balance of the aquicultural organizations. The value of these intra-organizational land reclamation funds at the present time is 20 billion rubles and by 1990 it will reach 34 billion. And these funds are being maintained on many farms which do not have the required equipment or highly skilled specialists and they are not being maintained at the proper level. Their transfer over to the balance of aquicultural organizations (with financing of 30 percent of the expenditures for their maintenance and repair using state

budgetary funds) will have a positive effect on the operation of the networks and upon the crop yields.

Thus the range of responsibilities of the land reclamation organizations is expanding. Nevertheless, the chief responsibility continues to be that of placing new irrigated and drained lands in operation, including the building of roads, housing, children's institutes and installations of a cultural-domestic nature. In this regard the Plenum has required an increase in the level of land reclamation construction and in the effectiveness of the capital investments allocated for this purpose.

The conditions required for the above have been created. Minvodkhoz /Ministry of Land Reclamation and Water Resources/ now has a powerful production-technical base at its disposal. The army of land reclamation specialists numbers 1.7 million individuals. However, it was noted during the Plenum that there are still many shortcomings and unused reserves in aquicultural construction. Large over-expenditures of material and fuel-energy resources and unused reserves are being tolerated. Last year the losses in working time in construction organizations amounted to approximately 1 million man-days, more than 40 percent of the organizations exceeded their planned production costs and many are not fulfilling their tasks for raising labor productivity.

The duration for the construction time for aquicultural installations is considerable and quite often the schedules for placing them in operation are postponed repeatedly. As a result, the vast resources expended do not produce the desired return in a timely manner.

Nor is proper quality always ensured for the construction-installation work. Sampling control carried out for 2,670 installations revealed that almost two thirds of them were built with considerable deviations from the requirements set forth in the planning and normative documentation. Owing to fault on the part of the land reclamation specialists, pipeline ruptures, soil salinization and a deterioration in the structure of the arable soil layer occur on lands already placed in operation.

It was stated during the Plenum that exemplary order must be restored at all of the land reclamation construction projects.

The decree of the Presidium of the USSR Supreme Soviet which established the honorary title of "Honored Land Reclamation Specialist of the USSR" will promote an increase in the responsibility of the builders.

The tasks of industry and science. These tasks determine to a considerable degree the effectiveness of land reclamation. Our domestic industry has mastered the production of many types of land reclamation machines and equipment. But more such machines and equipment are required and some enterprises are not coping with their tasks. For example, each year Ministroydormash /Ministry of Construction, Road and Municipal Machine Building/ fails to fulfill its plans for supplying the aquicultural organizations with rotary excavators and other specialized machines. The land reclamation equipment, including expensive sprinkling equipment, does not always possess the desired quality and quite often there are design imperfections and performance defects.

Of the 673 types of machines required for the complete mechanization of land reclamation operations, only 349 are being produced. There is a shortage of equipment required for mechanizing watering operations -- almost two thirds of the irrigated lands are being watered using the surface method, with the aid of shovels and strong hoes. The chemists are under an obligation to the land reclamation specialists. They must increase the production of polymer materials and ensure the conversion over to the use of plastic pipelines.

The Plenum of the CPSU Central Committee has tasked the appropriate organs and branches with ensuring the supply of high quality and reliable machines, materials and equipment, in strict conformity with the program that has been developed, stimulating the creation of more improved, highly productive and economic excavating and land reclamation equipment, instruments and equipment for the automation and remote controlling of aquicultural installations, machines and equipment especially intended for the repair and operation of land reclamation systems and accelerating the development of the series production of these machines and equipment. The party organizations of industrial enterprises are tasked with exercising constant control over the carrying out of these tasks and directing the labor collectives towards searching for additional reserves and opportunities for over-fulfilling them.

The scientists have been assigned the task of improving their study of problems concerned with raising the productivity and stability of farming, under irrigation and drainage conditions, and with the development of new varieties and hybrids of the intensive type. In the decree handed down by the Plenum, it was stated that greater attention must be given to the economic effectiveness of land reclamation, to the development and creation of technically improved irrigation and drainage systems and modern machines for the carrying out of land reclamation, repair-restorative and agricultural work, to accelerating the introduction of scientific achievements and leading experience into aquicultural construction and agricultural production and to raising considerably the scientific validity for the regional redistribution and rational use of water resources.

The tasks assigned by the Plenum have been defined more specifically in the 27 October decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Long Term Program for Land Reclamation and for Raising the Effectiveness of Use of Reclaimed Lands in the Interest of Steadily Increasing the Country's Food Fund."

The Plenum of the CPSU Central Committee has called upon the communists and labor collectives of branches of the agroindustrial complex, machine building, the construction industry, chemistry and power engineering to concentrate their efforts on carrying out the land reclamation program and it has expressed confidence that the fulfillment of this program will become a national concern.

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